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THE PAPERS IN THIS VOLUME WERE
COLLECTED AND EDITED BY
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Efficiency in City Government



PHILADELPHIA
AMERICAN ACADEMY OF POLITICAL AND SOCIAL SCIENCE
1912

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PART ONE

*The Need for Efficiency in Municipal
Government*

PART ONE

*The Need for Efficiency in Municipal
Government*

EFFICIENCY IN CITY GOVERNMENT

BY HENRY BRUÈRE,

Joint Director with William H. Allen and Frederick A. Cleveland of the
New York Bureau of Municipal Research and Training School
for Public Service.

Origin of the Movement

Through a catastrophe Galveston learned what many cities do not yet appreciate, that city government is the indispensable instrument of effective community co-operation. To equip its government to take leadership in rebuilding the wrecked city and to safeguard it from a recurrence of the disaster, the citizens of Galveston resorted to the commission plan whose growth and achievements were recently vividly described in *THE ANNALS*. Similarly, the efficiency movement in cities grew out of recognition of the dependence of community welfare upon government activity. It began in 1906 in an effort to capture the great forces of city government for harnessing to the work of social betterment. It was not a tax-saving incentive nor desire for economy that inspired this first effort to apply modern efficiency tests to municipal government, but the conviction that only through efficient government could progressive social welfare be achieved, and that, so long as government remained inefficient, volunteer and detached effort to remove social handicaps would continue a hopeless task.

The efficiency movement is not trying to convert city government into a master philanthropist. On the contrary it aims to remove city government from its isolation, and to make it the customary and accepted common agency for "getting things done" by all groups of citizens in the execution of public purposes upon which they divide either because of racial, sectarian, social, economic or political differences.

It is an attempt to substitute for fractional, isolated, incomplete, ill-equipped and cross-purpose social welfare work a city-wide, community planned and community executed program of citizen well-being. It recognizes in health work, public education, public

charities, police work, corrections, the administration of law and justice, housing control and public recreation, opportunity to deal directly with conditions engendering personal incapacity and community distress.

It is too much to say that effort to obtain efficiency in government originated with any single organization or was unknown before bureaus of municipal research began their work of co-operation with public officials. But it is probably true that not until 1906, when an experimental bureau of research was established, had any official or citizen agency directed its effort exclusively to learning the facts regarding city government and to constructive effort to promote efficient municipal administration.

Since 1906 citizens and officials of New York City have given persistent attention to the work of converting "ramshackle" into efficient government. Philadelphia, Cincinnati, Hoboken, Chicago, St. Louis and numerous smaller towns have organized and are financing agencies to bring about better city government through learning the facts regarding present government service, organization, methods and community needs.

Supplementing local work, the Metz Fund of \$30,000, established by ex-Comptroller H. A. Metz, has as its purpose, placing country-wide in the hands of municipal officials, officers of boards of trade, civic associations and chambers of commerce, precise information regarding the best administrative and accounting practices worked out in any American city. The Training School for Public Service with \$200,000 has begun an experiment in equipping men for public employment and civic work as distinct professional pursuits.

The President of the United States has organized a commission to apply the principles of efficiency to the federal government.

Each of these steps is directly traceable to the experimental test begun in New York in 1906 of basing citizen protest, citizen request, governmental plans, and administrative methods upon a scientific study of community conditions and the facts of governmental action, neglect, results and failures.

First Steps

So great has been the task, necessarily first undertaken, of instituting efficient business practices in city departments, that for these first years the major part of the work of citizen efficiency

agencies has been devoted to co-operation with public officials in reorganizing budget making, accounting, purchasing, timekeeping, store-keeping, and to providing a fact basis for administration. For this reason, despite already extensive emphasis upon health, education, housing and dependency, the idea is very general that those interested in promoting efficiency in government are concerned only with business methods, efficient accounting and the technical aspects of budget making, etc.—in short the means and methods of government rather than its aims and policies.

Systematizing public business has been necessary to equip city government to do the work already committed to it and to prepare it for the assumption of increased responsibilities. However well-conceived and well-intentioned the program of city government may be, its value to the community will depend upon the frequency with which accomplishment is checked against purposes and intentions, results achieved measured against standards of possible results, misdirection of effort and other waste detected and diverted into channels of needed activity.

While the efficiency movement aims, it is true, at efficient business administration in cities, the scope of its purpose is as wide as the five standards by which it holds municipal efficiency must be tested. These standards are:

1. Efficiency of service program or objectives towards which government activities are directed.
2. Efficiency of organization, with reference to facilitating the economical execution of the service program.
3. Efficiency of method which will provide the best means for performing each separate function and task of city government.
4. Efficiency of personnel—conceived of as a specially trained, socially minded, skilfully directed and permanently employed corps of municipal workers to man the organization, to devise, supervise and employ efficient methods and to execute an efficient program of service.
5. Efficient citizenship, equipped through intelligence regarding citizen needs, and armed with facts regarding government conditions and results, to co-operate with public officials in enlarging the usefulness of government and insuring its adherence to establish standards of efficiency.

1. *An Efficient City Program*

It is not necessary to reach out in the realms of imagination to find items for an efficient city program. Tasks already undertaken by government, badly executed or ignored, will in themselves provide a basis for measuring the adequacy of government service. Clearly to learn what government under existing laws and existing plans is responsible for is the first step in testing efficiency in city work. It frequently happens, however, that the most costly inefficiency is not extravagance or waste in executing work performed, but failure to so plan work that it will adequately meet community requirements. If departmental activities are misdirected, it is poor consolation to the taxpayer and to the public to know that taxes are comparatively low, that supplies are purchased at reasonable prices and that employees give full day's service.

Nowhere is inefficiency resulting from misdirected work more clearly shown than in the execution of public improvements. Wrong city planning and no city planning are costing American cities infinitely more than inefficiency and graft in construction of public works. It may be true that no public work in New York City has been more efficiently performed than the construction of the great East River bridges. Yet there has been no greater waste in all the hundreds of millions of dollars that the city has expended for public improvements, because planned without reference to the city's rapid transit needs, these bridges obstruct rather than facilitate the solution of this pressing problem.

Wrong location of school buildings because of lack of knowledge of the character and location of school population is not mitigated by economy and efficiency in school construction. Purchasing park lands in isolated and inaccessible sections can never be justified on the score of a bargain opportunity for acquiring real estate.

To frame an efficient city program, then, two steps are necessary: first, ascertaining the work and services that charters and general laws require and that government departments are authorized to perform, and which citizens now assume that government has undertaken; second, studying community conditions, both with reference to the already established activities of government and with reference to existing needs toward which community services have not as yet been directed.

A general social survey helps to bring together in a single picture

community conditions with which government is concerned. In large communities social surveys can best be made with reference to particular governmental functions or closely related groups of functions. Thus a study of education, health, charities, or public works departments would aim to produce facts regarding the scope and efficiency of present activities and the education, health, charitable or public improvement needs of the city as yet unaffected by the plans or activities of the departments in question.

Obviously, efficient health work is impossible without knowledge of community health condition. This fact is so commonly recognized that health departments, wherever they are more than "nuisance" inspectors, require the registration of births, deaths and communicable or contagious sickness because these give notice to health authorities of conditions currently demanding action. But merely to record statistics does not improve health or stamp out disease. Health statistics should lead to examination of causes. Determining causes should prompt action for their removal.

Up to 1909, the health department of New York confined itself in its anti-tuberculosis work to requiring physicians to report cases, transferring to hospitals cases in the last stage of the disease, and experimenting in the sanitarium on treatment of incipient cases. In 1909, on the basis of maps showing the number of reported cases and their frequency in congested areas, and a study of environmental conditions, the department received funds to conduct a continuous educational campaign in the families of all tuberculosis patients where private physicians were not in attendance. Since then it has directed and encouraged the tuberculous poor in habits of living which both minimize the danger of contagion and improve the patient's chances for cure.

In child hygiene work, it required a great many years for New York's health authorities to associate high infant mortality with parental ignorance and impure milk. When this fact was discovered the measures of attack included home visits to sick babies, educational placards distributed in the tenements, and class room instruction among school girls in elementary hygiene of child-care. But a marked reduction in infant mortality was not brought about until study of home conditions showed that tenement mothers needed in addition an opportunity to obtain pure milk and timely advice and medical attention in advance of the sickness of their babies.

In the first six months of municipally conducted milk depots and baby clinics, supplemented with home visiting by nurses, 1,110 lives were saved.

Sectional surveys of city conditions bring forward at once increased opportunities for effective community co-operation. For some time past there has been in progress, under the direction of Comptroller Prendergast, a study of New York City's relations to private charitable institutions. This study began to determine the efficiency and economy with which city funds, now aggregating \$5,000,000, are expended by these institutions. But infinitely more important than the many opportunities for better management which the study revealed was the evidence brought forward that, however efficiently the institutions themselves might be conducted, the city, so long as it confined its efforts to present activities, could not deal efficiently with problems of public dependency.

Thousands of children are publicly supported in private institutions, committed because of the death or dependency of their parents. The reasons for their commitment are methodically recorded in great registers in the children's bureau. Once a year the causes of commitment are summarized and published in the report of the department of charities. They show that illness, death and desertion are the principal reasons which lead parents to give over to the city the care of their children. But despite its records and despite the apparent preventability of these causes, the city still limits its concern for needy children applying for commitment to placing them in institutional homes.

No city government, no citizen agency, no community can achieve efficiency in any branch of city service merely by bringing about precision, orderliness and economy in the performance of existing tasks. City government must match its efforts against a background of knowledge regarding opportunities for service. In Milwaukee, where a Bureau of Efficiency and Economy has been established by the city government, a definite part of the Bureau's program is to study such questions as unemployment, free legal aid and women's wages. The new mayor of Schenectady proposes to make the city government a laboratory of social inquiry in order that every social need of the community which may be satisfied by co-operative action may be brought to the attention of the public and officials, and where funds and limited powers permit, may be incorporated into the program of government service.

HOW A CITY'S SOCIAL PROGRAM EXPANDS WHEN FACTS OF
NEEDS ARE LEARNED

Division of Child Hygiene, New York City

S. JOSEPHINE BAKER, M.D., Director

1912 Child Hygiene Budget \$582,895

<i>Activity Before Investigation of Needs, 1908</i>	<i>Investigation</i>	<i>Activity After Investigation of Needs, 1912</i>
A (1) School children inspected for physical defects.	Tests to show that parents will obtain treatment if need is explained verbally by nurses or inspectors.	Clinics for treatment of children found with defects. Vigorous follow-up work all year round by nurses explaining to parents necessity for treatment.
(2) 70 per cent of children found defective.		Dental clinics requested.
(3) Postal cards sent to parents advising treatment. Result 8 per cent reported treated.	88 per cent of children found defective treated in test by follow-up methods.	85 per cent of children with defects reported treated in 1911.
B (1) Relief work, sick babies treated.		Preventive measures adopted, babies kept well.
(2) Babies visited only when parents, inspectors or charity societies report baby sick and parents are unable to employ physicians.	Study showed ignorance of mothers and bad milk responsible for baby deaths.	55 milk depots established. All year round campaign. Instruction to mothers in homes, medical advice to mothers for infants in depots.
(3) Visits made only in summer time.	Summer campaign started to test efficacy of education by nurses at home visits, little mothers' leagues, mothers' classes, etc.	Special "baby" milk provided for tenement mothers at reasonable rates.
(4) Result — infant mortality from diarrhoeal diseases totals 5,000 per annum.	Milk depots experimented with.	Saving of lives of babies under one year in 6 months' experiment, 1,183 — all causes.

The program and objectives of city government action will continually change with the growth of population and the heightening of demands upon government service. But, in framing the budget of expenditures, annual opportunity is given to cities to revise their programs, to redirect the activities of their departments, to extend or to check them. Scientific budget-making recurrently presents the occasion for using facts regarding community conditions and governmental service in promoting government's usefulness and efficiency.

For years the board of estimate and apportionment of New York City has refused to grant full amounts requested by the health and charities departments because it was not convinced that moneys asked for were needed to protect the city's health or to care for its destitute.

Reluctance to appropriate has been partly attributable to the uncertainty that funds requested would be used with fullest efficiency. But it has also been due to the fact that neither of the requesting departments, the community, nor the board of estimate and apportionment, had definitely pictured to itself the wide gap existing between health and charitable services now rendered and the health and charitable needs of the city.

2. Efficiency in Organization

The general features of city organization are properly and usually determined by charter provision. But to provide for a board of commissioners, a mayor and council, a commissioner of police, a director of public safety, or a commissioner of public works, is not making provision for an organization to conduct the general city government, or police, fire and public works departments. The major divisions of municipal activity consist of groups of sub-functions, each involving a special character of work and requiring special forms of organization and special ability and training on the part of supervisors.

Fortunately, legislatures or charter commissions are not required to frame schemes of charter organization out of whole cloth. Even commission government is not new under the top. Charter legislation is now generally charter revision or charter rearrangement. Even where charters are first drafted by well intentioned citizen amateurs, lines of activity and forms of organization are more or less affected by existing activities and existing organization.

Fanciful innovations may be made to correct assumed existing defects in organization because they seem to those who frame them especially ingenious devices for obtaining efficient government. But just as a wise program of service for government must be based on knowledge of existing conditions, so a plan of departmental and internal departmental organization must be based upon an understanding of the existing organization, its merits, defects, ability or failure to meet service requirements.

Perhaps the most scientific attempt to frame a charter for any American city was that made by the Ivins Commission appointed for New York City by Governor Hughes in 1909. When this commission began its work considerable dissatisfaction prevailed with the existing government of New York City. Various city departments had for several years been undergoing investigation which revealed innumerable breakdowns and a general low state of efficiency. A great many theories had been formulated to correct defects so made known. Members of the commission themselves had either held public office, were public officials during their time of membership in the commission, or were active in public work, and were, in consequence, possessed of definite views regarding changes.

The commission, proceeded, however, on the assumption that intelligent charter revision could not be accomplished without first hand, fresh knowledge of how government is now organized and how it now conducts its work. Actual organization and actual procedure could not be learned from a study of the charter. Heads of departments, never having analyzed the machinery under their direction, could not be called upon to give an accurate description of how it was constituted and how it operated.

The Bureau of Municipal Research, therefore, was requested to chart the organization of every city department to show by schedules what was being done, who was doing it, the organization provided, and the exact powers and duties of every unit in the departmental structure. For the first time what the city government was in fact was shown graphically. By reference to the charted plan of organization and schedules of powers and duties, discussion of defects in organization was immediately definitized. Overloaded divisions, underloaded divisions, conflicts in authority, overlapping or incongruous functional responsibilities were brought to light. By means of these organization charts it was possible to guard against

omissions in the revised charter, and to learn where it was wise to prescribe definite forms of organization, and where discretion in this regard should be left to local boards or officials.

In summary, efficient planning of organization for charter prescription will therefore, include:

1. Study of existing organization and relation to powers and duties.
2. Reclassification, if needed, by functional groups.
3. Eliminating incongruities of functional responsibilities or excessive or under responsibility.
4. Eliminating conflicts of jurisdiction.
5. Centralizing all activities of one kind, so far as possible, under one general administrative control.
6. Leaving to local authorities and administrators determination of details of organization, divisional structure and distribution of duties.

The actual task of building up an efficient administrative machine falls to the lot of the administrator. It is for him to place the right man in the right place, to functionalize work and group subordinates, to clarify responsibility and the relations of subordination, to specify with definiteness the tasks to be performed by each employee considered with reference to kind, quantity and time of performance. Efficient organization will not only be specific in the assignment of duties, but will provide for efficient supervision, facility of contact between supervisors and subordinates, on the one hand, and between supervisors and executives on the other, for conference on work plans of organization problems and for flexibility so as to avoid recurring periods of over-pressure and under-pressure.

When President McAneny began the reorganization of the departments of the Borough of Manhattan he found in the Department of Public Works five separate accounting offices, each maintaining its original books of entry, its independent appropriation and fund ledgers, and employing separate and unsupervised staffs of bookkeepers and accountants. A single set of departmental accounts, one accounting office under one supervisor, has taken the place of the five independent offices, and not only does the work formerly committed to the five with lower expenditure, but with infinitely greater accuracy and usefulness.

Four different divisions of the Department of Public Works dealing with fractions of the problem of maintaining sidewalks, Mr. McAneny consolidated into one, with a reduction in force from 35 to 15. Under old conditions each division foreman attempted to justify the continuance of his special service by manufacturing work to do and spreading out as thinly as possible work actually required. Under reorganization, with centralized responsibility for every feature of sidewalk maintenance work—street signs, sub-surface vaults, incumbrances and paving—no task is completed until all others are completed, and, because of the concentration of thinking and action with respect to the whole problem, noteworthy improvement has resulted in sidewalk conditions.

As formerly constructed, before its "reorganization from top to bottom," the finance department of the city of New York consisted of a series of separate jurisdictions presided over by practically independent division chiefs theoretically responsible to the comptroller, but because of a monopoly of information, practically exercising undisputed sway each in his own jurisdiction. Accounting and auditing functions were so broken up that each separate step invited the establishment of an official principality. In each of these separate divisions were separate staffs and separate records containing information frequently recorded in similar records maintained by other divisions of the department.

Under reorganization, accounting and auditing functions are centralized, detached auditing bureaus brought together under one control, every step in the process of audit and accounting definitely prescribed, and necessary information recorded in one place for the common use of every officer or interested employee of the department.

Few city departments will retain their present organization if commissioners or directors will have existing organizations diagrammed, functions listed in detail, and actual duties described. An honest photograph of the average city department will generally lead an efficient head to take one of the following steps:

1. To group and centralize control over like general functions.
2. To put together detailed activities belonging together.
3. To place emphasis upon important work now carried on as a "side issue."
4. To divide work now done by one employee among two or more (rarely).

5. To give to one employee work now done by two or more (often).
6. To abolish unnecessary steps, work, and positions, "old fashioned" habits, private memorandum records, soft snaps, drudgery, "free lance" jobs, irresponsibility in subordinates, "roving commissions," permanent "special" assignments, laxity or redundancy in supervision and conflicts in authority.

3. Efficiency of Method

Wrong, roundabout, old fashioned, slovenly methods cling to city government as a last refuge from the Juggernaut Efficiency. Even commission government gives shelter to work methods that efficient private enterprise discarded a generation ago. Adoption of the board-of-directors analogy to private business organization has not dispelled the false notion that, because of peculiar governmental conditions, public business methods must be different from private business methods. Contagion in commission government has not meant contagion in the adoption of efficient business methods. Houston in 1902 installed a modern system of accounting—such as one would find in a well conducted private undertaking. It gives to public and officials alike a true picture of the city's financial operations. This system was the one asset of efficiency handed down from the old government which the commission plan succeeded in 1905. The success of Houston's new government has inspired scores of cities to try the commission plan, but in adopting the new form they have ignored Houston's splendid example in good accounting.

Dallas and Fort Worth, Texas, are only a few miles apart. Both are important commission governed cities aiming at efficiency, yet each goes its own way in respect to business methods. Fort Worth has adopted Houston's asset and liability accounting system. Dallas continues on a cash receipt and disbursement basis. Fort Worth has a modern, centralized purchasing agency cutting down the cost of supplies. Dallas continues the wasteful practice of permitting each department head to purchase his own supplies.

Interchange of experience has been more difficult between cities conducting the public's business than among competitive private business undertakings. City comptrollers sometimes convene for discussion, but spend valuable time in protesting the superiority

of their particular "systems" and heckling those who have the temerity to suggest improvements. State governments, theoretically empowered to regulate municipal as well as private corporations, delight in devising as many different ways for cities to conduct the same kinds of business as the ingenuity of legislators is able to suggest. More cities have imitated New York's White Way than have adopted its efficient budget or accounting system, or would ever have heard of them had it not been for the persistent educational campaigns of citizens' agencies.

Uniform charters have not meant uniform efficiency of methods that determine the success or failure of any charter plan. New Jersey, under Governor Woodrow Wilson, is taking leadership in adding to a uniform commission government law, a uniform business code, including procedures for assessments, purchases, budget making, accounting, public improvements and the rest of the ninety per cent of city business that can be conducted in only one best way in cities of comparable size, and that way the best for all of them.

This issue of THE ANNALS will contain many papers describing steps already taken by New York, Philadelphia, Cincinnati and other cities to put efficient methods into operation. They will iterate and reiterate such terms as, *unifying, standardizing, systematizing, clarifying, co-ordinating, controlling*, which are the veritable shibboleths of the efficient city government campaign. They represent the processes now employed to drive waste out of city government and to make graft unprofitable because of sure detection. For six years archaic city business methods have been under attack. New York has now an accounting system equalling that of the Pennsylvania Railroad. Learning the art of standardization of supplies from the Union Pacific and the Canadian Pacific Railways, New York is setting an example to every American city in definite description of articles to be purchased, selection of articles with sole reference to requirements and far seeing economy, and in testing and inspecting deliveries to ensure their exact conformance with exact specifications. To interpret the specifications both for purposes of bidding and for purposes of inspection, it has begun the development of a standard room where examples of the articles specified will be available for examination. In its new municipal building it will conduct a testing laboratory unexcelled in the United States. All these steps have been taken to ensure accuracy and economy in purchases in a city where six

and even fewer years ago practically every supply contract or order was an invitation to exploiters to gouge. Messrs. Lindars and Sands in their paper on budget making¹ tell the story of New York City's budget revolution. By substituting methods of precision for pull and guess work, light for darkness, critical examination for dark lantern forays, the budget has been made the most telling instrument for progressiveness and efficient management in the hands of responsible officials and an intelligent public. Efficient budget methods automatically save millions a year, whose waste in the grab bag era never came to light.

The work of uprooting old methods and installing new (new to city government) has by no means been completed. Perhaps New York has been raised from forty per cent to sixty-five per cent efficiency, but hardly more than that. It is estimated that still one-tenth of a ninety million dollar pay roll is wasted by unnecessary employment, low grade service or misdirected energy. This may be high, although the waste is undoubtedly very great, as Mr. Welton's paper shows.² For example, Commissioner Thompson, of the Department of Water Supply, Gas and Electricity, states that he is compelled to waste \$100,000 a year merely because restrictive civil service laws prohibit the facile removal of veterans, including volunteer ex-firemen "billeted" on the city through its pay rolls. Enormous waste still continues in supply purchases, because the work of standardization is only getting under way and because New York still purchases its supplies through seventy-five purchasing agents instead of one. But the waste remaining no longer terrifies the conscientious official or city betterment worker. Mystery has been taken from it. It is no longer regarded as the discouraging, inevitable accompaniment of public business management but as a fungus growth which energy, light and scientific methods quickly destroy.

4. Efficiency of Personnel

Where there is method, record and publicity, many incompetent employees cultivate efficiency. Employees in boiler rooms respond almost automatically to the tell-tale of recording devices, showing water and coal used, amount of steam developed, current generated. Supervision, comparison time reports, cost data, efficiency records—

¹ See page 138.

² See page 103.

all prove powerful stimuli to the slothful worker and encouraging incentives to the energetic.

With new standards of service, organization and method, new standards of personnel develop. New motives in city government will shift the basis of effort to improve the quality and character of city employees. Civil service reform to protect communities from exploitation by the spoilsmen in office will increasingly become less necessary than civil service reform to help to success the public official who wants to make good. Efficient officials cannot afford to dispense with experienced efficient employees because of political affiliations or partisan inactivity. Efficiency-determined communities cannot afford to erect barriers to dismissal of employees who do not measure up to new standards of serviceability.

Permanency in city employment is important, but less important than capacity and willingness to serve. The battle against the spoilsmen has made civil service reformers more intent on competition before appointment than upon performance after appointment. Service records, time sheets, efficiency tests, formulation of work "routines" will vitalize the now too theoretical power of discharge for incompetence. Three years ago it was an "insult" and humiliation to require a city employee to keep time records. Now time sheets and service records based upon them are supplanting impression and pull in determining fitness for promotion.

Direct primaries, non-partisan and preferential voting, give to the electorate opportunity for free selection of elective officials. The recall or removal on charges, as exercised by Governors Hughes and Dix in the State of New York, make abuse of office or official incompetency less likely to escape with impunity. But just as competitive selection on technical or educational tests has failed to produce the specially trained employee, so these new devices of popular control will fail to produce specially equipped candidates for office. City government needs special training of personnel, elective as well as appointive, both before and after employment. Germany for years has conducted public service schools. Cincinnati, beginning this year, through its municipal university, is providing field training in government service. The Training School for Public Service conducted by the Bureau of Municipal Research in New York is a private demonstration of a public need that will presently, no doubt, lead to the establishment of special training courses for public

service in public educational systems and in universities and technical schools. Indeed, since the opening of this school, the College of the City of New York has announced courses for city employees, designed to prepare them for higher positions.

Social service training of city visiting nurses, accountancy instruction for city bookkeepers, practical courses in administration for subordinate administrative officers, instruction in municipal engineering problems where these differ from private engineering problems, offer immediate opportunities for bettering public service.

Schools of this character are appreciated in private business. The New York Edison Company conducts a practical school for its employees and aims to prepare those who complete the course for responsible positions in the service of lighting companies. The course is not compulsory, but those among the employees who do not think it worth while to take it, the company does not think it worth while to consider as available for important advancement. Similar schools are conducted by other industrial establishments.

Cities have no greater problem than the training of personnel. Employees cannot be efficient unless they feel the incentive which comes from definite opportunities ahead. The city that first learns to deal with its working forces on some other basis than abuse, indifference, cajolery, favoritism or fear will come very near discovering the secret of efficient government. Promotional systems based upon work and service tests, retention based upon efficiency records, compensation, equalized without reference to political drawing-of-water or hewing-of-wood, standardized on the basis of reasonable standards of living and like compensation for comparable service in private employment are problems efficient government workers must promptly attack. Chicago through its civil service commission is taking the first steps in this direction. New York's board of estimate and apportionment has "resolved" to follow suit. But other cities lag far behind. Commission government has not generally included even competitive selection of employees. Far famed Galveston has no civil service law and is prohibited by its charter from going outside of the tiny island upon which it is built to find its employees, big or little. Milwaukee had to dismiss an efficient commissioner of public works because he happened to live in another beloved state at the time of his appointment. The New York legislature, at the suggestion of a Tammany Assemblyman has recently

been considering a law making it mandatory for public employees in that state to conform to the benighted Wisconsin rule both before and after appointment.

The tinsel superiority of the conspicuous officeholder establishes autocracy in city departments where co-operation should rule. Bootlicking is still expected by many public officeholders, although private business has long ago learned that conferences with employees, participation in work planning and participation in credit for work done increases dividends.

5. Efficient Citizenship

All the steps taken to develop efficient government provide as well for advancing the efficiency of citizens in their dealings with government. For most citizens having livings to earn, contact with government facts must either be confined to some special line of activity or must be a vicarious contact established through a civic agency. Whatever intelligence the average citizen will have regarding the details of government will continue to be gained as now, either from personal observation of physical conditions or from newspaper accounts. Where a fact basis for information regarding city business is developed newspapers will provide facts instead of gossip, hearsay or scandal.

The 1911 New York budget exhibit was visited by nearly a million persons, but the facts which it presented regarding city finances and needs were read by millions of readers of countless columns of newspaper discussion. Any citizen can tell when the pavement before his door is neglected or when city water is discolored, but no citizen can generalize on these observations or learn from them anything at all regarding the city's actual efficiency.

Where government is progressive a progressive commercial organization is likely to be found. Commission government, for example, is often made a part of the progressive programs of "boosting" commercial organizations.

Boards of trade, chambers of commerce, city clubs, women's clubs, churches and taxpayers' associations are the types of agencies existing in most communities which may profitably make the interpretation of city facts a part of their regular activities.

The first need of citizen efficiency is adequate publicity of city facts. Municipal reporting is still a wordy, uninforming and hopelessly unreadable utterance of miscellaneous items. A very definite

obligation of the efficiency effort is to develop standard city reporting. A city report to get inside the minds of citizens, however intelligent, must be brief, prompt, explicit and so framed as to throw into prominence significant facts that tell the story of action and efficiency quickly. City reports most everywhere are still intended for printing only and not for reading, understanding or interpretation.

If school children, instead of being taught the profound (rapidly disappearing) differences between judicial, executive and legislative functions, were taught how to read city reports and what are the significant facts to look for and demand, intelligent citizens might come to include in their intelligence some idea as to what is going on in the city hall.

Take for example health. Why should not a high school pupil learn that the efficiency of the health department may be gauged by some such facts as:

The death rate.

The infant mortality rate.

The measles, scarlet fever and diphtheria rates (morbidity and death).

The bacteria count of milk—maximum, minimum and average.

The number of school children treated for defects.

The number of nuisances abated, etc., etc. All as compared with previous periods.

At least quarterly a consolidated comparative report of significant efficiency test items should be published by every city government. From ten square inches to a postal card should meet the space requirements of these statements in accordance with the size of the city and the number of its municipal activities.

Civic intelligence does not depend upon making every public spirited inhabitant of a city a fact depository regarding city business. A very large majority of citizens, however, now belong to some organization the success of whose work depends in part or at least on one or more of the activities of government.

Conference and co-operation between business organizations or social workers' associations on budget matters, public improvements, school and health needs, and joint action wherever that is

possible will accomplish results with greater feasibility than the isolated activity, petitions or clamor of a dozen isolated organizations. Every city pretending to want efficient government should have a citizen supported fact center through which each of these organizations may operate to learn of government activity and to influence government work.

Enlightened self-interest when turned toward government may lead to improvement. Taxpayers demanding economy may effect economy by helping in the work of administrative betterment. Better administration enables greater activity in health, charity and education. Automobilists, dreading bumps and wrenched cars, furnish an always available support for effort to improve street pavements. The Italians of East Side Manhattan recently conducted an exhibit to show from their own standpoint the governmental needs of their locality. Appeals to the pocket interest of women clubs give backing to weight and measures campaigns benefiting all. Every motive for good government must be availed of. To show that women are intelligent enough regarding public questions to vote, a woman's club in a Hudson River village is planning a budget exhibit. The demonstration will doubtless win converts to equal suffrage but by energizing the village government the exhibit will help the most ardent anti-suffragists.

Citizens of larger cities must frankly recognize the need for professional service in behalf of citizen interests. Bureaus of municipal research concentrate on one point of attack, the community interest of groups of citizens. Even efficient private citizens cannot deal helpfully with expert governmental questions.

Efficient citizens will evidence their efficiency by supporting constructive effort for governmental betterment by readiness to understand facts and to co-operate when special problems arise, and will insist that all organized welfare effort relating to any matter affected by government action or service shall seek to establish efficiency in government as the first step in improving community conditions. The most inefficient citizen is one who sends his child to a private school *because* public schools are inefficient, who collects his own garbage *because* public collectors are unreliable, who paves his own street *because* a highway bureau is incompetent, or employs his own watchmen *because* police are undependable. Community welfare is made up of the individual welfare of the inhabitants of a community.

Few men or women are so free from dependence on government service that, once their indifference is overcome, enlightened self-interest will not stimulate them to co-operate in effort to promote efficient government. Where self-interest fails there remains civic pride, social interest and public spirit which now and again really do help in the warfare against inefficient government.

THE NEED FOR COORDINATING MUNICIPAL, STATE AND NATIONAL ACTIVITIES

BY FREDERICK A. CLEVELAND, PH.D.,
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The customary attitude of the citizen toward the government is one of complaint. Toward the officer, the average citizen assumes an air of superior wisdom. He is sure that he himself would be able to direct any public office in a very effective manner. While formally deferential, a reported shortcoming or complaint causes the citizen to question the officer's motives, his judgment, his ability.

The Citizen and the Government

This may be one of the necessary results of popular sovereignty but under present conditions the feeling of citizen-superiority is much mixed with a feeling that the sovereign is being victimized by a group of inefficient conspiring public servants. No complaint is heard, however, which suggests that there is anything the matter with the sovereign. In order that we may put ourselves in an attitude of fairmindedness toward the public officer let us as citizens ask ourselves a few questions:

- How much thought do we give to the problems with which officers of government are confronted?
- How many of us who are complaining about waste and inefficiency in public service know:
 - What the government really is.
 - What the government is doing.
 - What are the conditions surrounding the public servant who is being criticised?
 - What results are being obtained?
 - What is the matter with these results?
 - What changes in equipment, in conditions, in institutional methods, in qualifications of persons charged with official duties are necessary in order that the officer may obtain the best results?

Is the citizen, our popular sovereign, discharging his full duty and responsibility?

Does the citizen (man and woman) know what are his unused powers, his duties, his responsibilities—what it is necessary for the citizen to do in order that the officer may be made effective as a public servant?

It is commonly assumed that the property owner and the taxpayer is the one who is primarily interested in the economic management—in waste and inefficiency of government. This theory has been skilfully taught and is commonly accepted. Is it true? If we go to full length in the consideration of what a vigorous, well-ordered, responsive and responsible government may do for the protection of property may not all this and much more be said for the need of a well-ordered responsive and responsible government for the protection of the individual?

Democratic government was not devised for the protection of private property—this has been only an incident. Through centuries of conflict it has been evolved as the welfare agency of the individual. It is the instrument created for the protection of the man as man whether he be rich or poor. It is the organized means for shielding the individual from what otherwise would be destructive evils of social and economic conditions for which the individual is not responsible. Without a dominant controlling agency more powerful than any combination of private interests, not only would the individual suffer but the limitations of society would make progress impossible.

Taxation is only the means employed for equating the cost of service rendered or to be rendered by the government. If the officer is inefficient it is not the taxpayer as taxpayer who suffers but the citizen—each individual beneficiary of the trust fund created by means of taxation. With growth of great centers of population, with increasing need for governmental activity, subversion of revenue and waste of public resources becomes a more direct loss to the weak than to the strong. This is necessarily so for the reason that persons of large private fortunes may provide the means for protecting themselves; being protected in the ownership and use of properties acquired they are able to obtain wholesome food and surroundings, comfort and enjoyment. Persons who have less fortune must depend for wholesomeness of food, for healthfulness of

surroundings, for comfort and enjoyment on government undertakings, government regulations and control. The hope of the individual lies in efficient government—in the most painstaking administration of the funds and resources that have been placed in the hands of officers for welfare uses.

Our Government a Group of Incorporated Public Agencies

The services and expenditures incident to government are not those of a single agency, but of a long list of agencies. Our government is made up of a group of public corporations, each of which holds its charter from the people direct or from the representatives of the people. In order to protect the individual against the usurpation of power by persons clothed with authority, democratic government has been so incorporated that each agency (and within each agency, each officer) has a strictly limited jurisdiction. That is, there is no one officer, or group of officers or corporation which is permitted to hold the balance of power.

The very complexity of our organization makes the problem of government difficult.

The purpose of this paper is not to consider the loss to the commonwealth due to inefficient management of public affairs, but to point to the lack of intelligent consideration of the needs of the people and of what the government is doing to meet these needs.

The Magnitude of the Business to be Considered

The government is spending not less than eight millions of dollars each day for public welfare ends. It has undertaken to render service almost as varied in kind and exacting in technical requirements as the combined employments and activities of the people in private life. Yet the fact remains that we have not provided ourselves or our officers with the means of obtaining information about what is going on, nor have we as citizens given to the subject enough thought to decide what manner of information we need. The government has suffered more from citizen neglect than it has from official incompetence. If each citizen were to keep an accurate record of his thoughts, the average time devoted to gaining exact information as a basis for thinking about matters of public concern would be found to be almost negligible. In consequence those officers who are devoting themselves to public service are harshly

criticised by an ignorant public who become mere tale-bearers and *a priori* statesmen; the officer is thwarted by selfish interests, in the end discouraged—not because of the inherently greater difficulties of the problem of public business as such, but by reason of the ability of designing individuals to get the attention of the public—to obtain audience with the citizen as sovereign for the consideration of plausible complaints about officers, while the officer himself, who is working for better things, is not able to obtain respectful attention for his constructive proposals.

*Character of Information Required for Efficient Management of
Group Organization*

The one thing which a shareholder in a group of private corporations insists on is an up-to-date statement of facts; the one thing that each trustee of a corporation in a complementary group insists on as a guide to judgment with respect to the policy is an up-to-date statement of facts; the one thing that the executive of a great private corporation finds indispensable is an up-to-date statement of facts. To be useful these must not only be up to date, but the many details must be so analyzed and summarized that the shareholder, the trustee, the officer may catch at a glance the significant changes—the conditions and results to which attention should be given.

The one thing that the citizen (the large shareholder in a group of public corporation), the legislator, the officer should insist on is an up-to-date statement of facts; one from which the citizen, the legislator, executive officer may catch at a glance the significant changes—the conditions and results to which attention should be given. These statements of facts should be so analyzed and summarized that the significant relations may be readily grasped not only for each corporation but for all. To do this the statements of fact should be prepared on common lines. That is, since each corporation is only a part of a whole which constitutes the government, since the powers, duties and responsibilities of each have been divided simply for organization reasons, but all have been created to serve the common needs of the people, each of the statements of fact should represent its part. Ability to state facts on common lines depends on the finding of a common basis for classification for each. This is found in the common welfare purposes of the government—

the part taken by each in the performance of functions prescribed for serving common ends.

Having in mind this basal need of the citizen, the legislator, the officer, for complete and up-to-date statement of facts concerning the activities of the government, and for having these facts grouped according to common activities or functions, it is of interest to note how far the American people have provided themselves—how far short we have fallen in our public corporate organization as compared with private corporate organizations.

Ignorance of Public Affairs a Menace to Honesty and Efficiency

An ignorant public is a constant menace to the officer who wishes to do his duty. An informed public is the best insurance that a public-spirited officer may have against the wiles of the "grafter boss." For lack of exact data public opinion is not cast in an exact mold. The "will of the people" is an emotional reaction actuated and controlled by the "Committee on Rumor." The "Committee on Rumor" is the convenient tool of selfish interests. This is the kind of public opinion which surrounds both citizen and officer. This is the background for executive action. The "Committee on Rumor" is in turn actuated by a selfish group of spoilsmen that dominates our institutions, our policies and our politics and will continue to do so as long as complete, accurate and prompt information is not made available in form which may be readily assimilated. Waste and inefficiency in government is the natural result of inability on the part of citizens and on the part of officers serving them to see the problem of government in perspective and to think intelligently about questions which are presented for expression of opinion and for action. The loss to the public is not expressed by the millions of resources that are directly wasted in the conduct of public enterprise but in the indirect results—in failure of the government to reach out and control those energies and institutions which have been organized for anti-social ends, in the waste of public resources resulting from failure to conserve the health, welfare, happiness of the individual. The demand for efficiency must go farther than to require that the government shall get a dollar for every dollar spent; it must constitute a demand that the government is doing the thing most needed, is conserving those ends and purposes which can not be adequately reached through private undertakings.

What is Involved in being Intelligent about City, State and Nation?

Broadly speaking, the many agencies which have been organized for the promotion of general welfare may be considered as of three classes—municipal, state, and national. The need for the coordination of municipal, state and national activities is the need for bringing into effective working relation all of the many parts of the group of governing institutions that have been established for the common good. It is a need for a more enlightened citizenship as a background for more effective service. It is a need for a new kind of civics in our schools; a new type of civic organization by means of which citizens as citizens outside of the government may be able intelligently and effectively to co-operate with officials. It is a need for a new standard of expressions for organs of publicity; a need for perspective which will enable each citizen to see what are the ends and purposes of each great commonwealth, what its complex machinery for rendering service; it is a need for intelligent consideration of the organization, personnel and equipment best adapted to make the officer efficient in doing the many kinds of work undertaken by the government. Initially, it is a need for more effective means whereby both the citizen and officer may have brought before them a complete, accurate and prompt statement of facts which will represent what is taking place, which will get before the minds of thinking individuals such summaries of result as may be brought to the test of enlightened judgment.

Within its field the national government is spending approximately one thousand million dollars annually. Cities having a population over thirty thousand are spending each year more than the national government. Besides these are states, minor cities and towns, counties, townships, and other local jurisdictions, each organized for general welfare purposes, each of which is spending its quota. It is commonly assumed that it is not necessary for the alderman, the mayor, the administrative head of a municipality to know what is being done by the state and national government, what is being done by the various county and other local agencies. Similarly it has been assumed that this information would not add to the effectiveness of either state or national administration or to the intelligence of national or state citizenship. The assumption is obviously wrong. How may the congress or the President of the United States think about what legislation is needed for the country

as a whole; what administrative measures should be taken by the federal government looking toward the protection of health, unless they may know what the several states and many cities are doing to protect the health of citizens within their respective jurisdictions; how may each of these many agencies have before them the problem of education; how may each of them think about the organization which should be provided, what funds should be provided, what equipment is necessary, what the administrative requirements in order to meet the demands of the people for better education, the better training of the young, unless persons charged with responsibility for controlling the activities of each of these several agencies, unless each may know what the other is doing? The necessary background for thinking about any of the questions related to government must be:

Exact information pertaining to the needs of the people.

Exact data with respect to the manner in which each agency is provided for these needs.

Provisions Made for Obtaining Information About the National Government

If a citizen were to undertake to inform himself about the government of the United States he would have before him a life work. Until recently there was no means whereby he might readily ascertain how the government was organized.¹ There is no one place where one can go to find out what the government is doing or what results are being obtained. To get even a partial story of activities and performances it would be necessary to rummage the libraries and records of every department and independent establishment at Washington. Even the preparation of a statement of expenditures for work would require the analysis and recapitulation of reports prepared in pursuance to ninety different acts of congress which result in nearly two hundred reports relating to financial matters. The hopelessness of the quest further appears when it is found that in no two departments and in many instances in no two bureaus in the same department is the same classification used. It is therefore quite impossible to get together a statement of expenditures

¹ House Document No. 458, Sixty-second Congress, Second Session, is the first statement of the kind. This was prepared by the President's Commission on Economy and Efficiency as of July 17, 1911. It was transmitted to Congress January 17, 1912, and ordered published.

which will show the cost of activities for the government as a whole.

The hopelessness of such endeavor and the need for data of a kind which will enable one to know what the government is doing and what is the cost of each kind of service rendered, led President Taft to request each department and office to analyze its expenditures for 1911 on a common basis. This will be completed shortly when it may be available. Under the supervision of the commission on economy and efficiency, each bureau and office was asked to make return on a form which would show for each organization unit and kind of work:

1. The character of expenditures, i. e., expenditures so classified as to show, cost of:
 - (a) Administration and other overhead charges.
 - (b) Expenses:
 - Operation.
 - Maintenance.
 - (c) Capital outlays (including payment of debt).
 - (d) Fixed charges (including pensions, interest, etc.).
 - (e) Contingencies and losses.
2. The method of financing, i. e., appropriation bills and character of grants under which expenditures were authorized.

The data thus obtained has enabled the commission not only to bring together the data of expenditures for the government as a whole, but to give a complete financial picture of the cost of:

Work done, expressed in terms of organization.

Work done, expressed in terms of character of expenditures.

Work done, expressed in terms of methods of financing.

Organization expressed in terms of character of expenditures.

Organization expressed in terms of methods of financing.

Character of expenditures expressed in terms of methods of financing—i. e., the method of financing current expenses, capital outlays, fixed charges, etc.

At the same time a complete analysis was made of appropriations for the year 1912 and of estimates for 1913. Such results, if presented currently, it is thought will enable members of congress, the President and heads of department to have before them the data

necessary to the consideration of every question of policy that may arise. Also if the accounts are kept in such manner as to bring the data before officers currently it is thought that they may be currently informed about what is going on, and watch the movements in the same manner as would the head of a great private corporation. To accomplish this, however, requires that all the accounts and current reports of the government be placed on a common basis—a work which necessarily will take much time and painstaking care. This means that practically every administrative process pertaining to the business of the government must be changed so that, instead of having a different system or technique in each accounting and disbursing office, there will be one general system or technique for the service.

*Provisions Made for Obtaining Information About State Government
and Minor Jurisdictions*

About fifteen years ago a vigorous campaign was begun looking toward the better information of citizens and officers in states. This has been in a measure successful. In a large number of states, commissioners of accounts, public works commissions, state auditors, state controllers, and other offices have been created the purpose of which is to give intelligent consideration to this need. In 1902, the census bureau² made an inquiry that also included the cities, the result of which was to bring together this data on common lines. Illustration of the practical possibility of establishing a uniform classification based on the character of service rendered, may be found by reference to this report.

At the present time the data collected by the bureau of the census is of small value, not because it has not been carefully done, but because it does not include national expenditures and is not up to date. The last analysis of expenditures for states, and counties and minor civil subdivisions on common lines is for the year 1902, in other words, the information there is ten years old. Since that data an annual report has been made for cities but the last published report bringing together the data for cities is for the year 1908. This is too old to be of use for the purpose of giving to officers or to the people a perspective needed for thinking about any question of current business.

² Report on Wealth, Debt and Taxation.

Provisions Made for Obtaining Information About Municipalities

At large expense to the national government a staff has been maintained for currently collecting the financial statistics of cities from original sources. For this purpose the classification of the bureau which was used to tabulate the report of 1902 was much modified—the classification adopted by the National Municipal League being adopted instead. This provides for classifying expenditures by character as follows:

I. Municipal expenditures:

1. Expenses (administration, operation and maintenance).
2. Interest.
3. Capital outlays.³
4. Payments on account of debt.³
5. Refunds.
6. Sinking fund and other investments.³

II. Agency expenditures (county, state, etc.).

The same data were also classified in such manner as to show the character of service rendered or purpose under the following heads:

I. General expenses and special service expenses.

1. General government (overhead).
2. The protection of life, health and property.
3. Health conservation and sanitation.
4. Highways.
5. Charities, hospitals and corrections.
6. Education.
7. Recreation.
8. Miscellaneous.

II. Expenses of municipal service enterprises.

1. Heat and light systems (for service of city only).
2. Paving plants.
3. Repair shops.
4. Printing establishments.

III. Expenses of public service enterprises.

1. Water supply systems.
2. Electric Light and power systems.

³ The payment of debt and sinking fund installments would be sub-details of capital outlays under the commission classification referred to on p. 30.

3. Gas supply systems.
4. Markets and public schools.
5. Docks, wharves and landings.
6. Cemeteries and crematories.
7. Institutional industries.
8. All other enterprises.

The outline of general expenses as above set forth is further analyzed so as to show the content of each of the classes as for example, "general government" is so analyzed as to show: councils and legislative officers; chief executive offices, including the mayor's office and executive boards and commissions; finance offices and accounts including auditor or controller, treasurer or chamberlain, assessment of revenues, collections of revenue, other finance offices and accounts; general law offices; elections; courts, including general police or municipal, central municipal courts, superior courts, prosecuting attorney, sheriff or marshal; and general government buildings.

So too, "protection of life and property" is made to include: the police department; militia; fire department; miscellaneous inspection; and pounds. "Health conservation and sanitation" is made to include: the health department; quarantine and contagious disease hospitals; morgue; sewage and sewage disposal; street cleaning, and refuse disposal. The general caption "highways" covers general supervision; general street expenses; street pavements, sidewalks; bridges other than toll; snow and ice removal; street sprinkling; street lighting and miscellaneous. Under "charities, hospitals and corrections" are included: general supervision; poor in institutions; out-door poor relief; care of children and miscellaneous charities; hospitals; insane in institutions; prisons and reformatories. Under the caption "education" is placed: general administration and expenses; pensions and gratuities; elementary day schools; day high schools; normal schools and colleges; night schools; schools for special classes; contributions to schools maintained by other civil divisions; contributions to private schools; libraries; art galleries, museums. Under the caption "recreation" is placed: expenditures for parks and grounds; park police; zoological collections; play grounds; music in parks; trees in streets; baths and bathing beaches; celebrations and entertainments.

The Obvious Advantage to be Gained Through Coordination

The fact that these data had been assembled under common classification, that the inquiry reached to 159 cities, that it entailed the distribution of \$1,284,117,012 of expenditures, makes very clear that there are no practical difficulties that may not be readily surmounted. The practicability of adopting uniform categories of expenses for national, state and city government, so far as each of these might have expenditures of the classes adopted, is also evident from the results of the work of the President's commission.

Assuming that such a classification were adopted as a basis for current accounting and reporting, the utility is obvious. At the present time there is no means provided for obtaining these data in such form that they may be considered in perspective by congress, state legislatures, municipal councils or other policy-determining bodies. At the present time the American people are in the dark and the officer is laboring under a handicap which can be overcome by making available information as a basis for judgment.

Let us assume that the question of transportation facilities is to be considered. No one knows or has the means for finding out what transportation facilities are being provided by states, by municipalities, by minor subdivisions of states, and what by the government. The last report above referred to which provides this information for all the agencies other than the national government showed that about one hundred and sixteen millions of dollars was spent for highways, of which amount about twenty-three millions was spent for lighting, the balance being shown as other highway expenditures. This included streets of cities, the expenditures for which amounted to about twenty-six millions. The reported amount expended for good roads by states, as of that date, was \$4,679,976; by counties was \$28,521,545; by minor civil divisions other than cities \$34,615,587. Exactly what is comprehended in these expenditures and what were the expenditures for highways by the national government at this time is not known. The analysis which has been recently made by the commission shows expenditures by the national government for the promotion of transportation facilities as follows:

SUMMARY OF EXPENDITURES BY THE NATIONAL GOVERNMENT IN 1911 FOR
PROMOTION OF TRANSPORTATION AND COMMUNICATION OTHER
THAN POSTAL SERVICE

Promotion of navigation:

Providing charts, sailing directions, and the like	
Engineer Corps, Department of War.....	\$136,371.16
Coast and Geodetic Survey, Department of	
Commerce and Labor.....	883,585.26
Providing, maintaining and improving public	*\$1,019,956.42
facilities for navigation:	
Lights, buoys and other aids to navigation—	
Bureau of Lighthouses, Department of	
Commerce and Labor.....	\$5,582,328.22
Officers of the Navy assigned to lighthouse	
duty.....	80,438.75
Officers of the Engineer Corps, War De-	
partment, assigned to lighthouse duty.....	1,230.32
Total.....	5,663,997.29
Inland canals—Engineer Corps, War Department.....	1,646,306.73
Rivers and harbors—Engineer Corps, War Department...	31,521,398.10
Panama Canal—	
Isthmian Canal Commission.....	\$37,830,278.93
Engineer Corps, War Department.....	51,799.53
Total.....	\$ 76,713,780.58
Rescue and relief of vessels in distress and of	
their seamen and passengers—	
Life Saving Service, Treasury Department...	\$2,398,487.95
Navy Department.....	50.00
State Department.....	16,023.82
Total.....	*2,414,561.77
Subsidies to steamship lines—Post Office Department	185,862.46
Other—International Congresses of Navigation, War De-	
partment.....	8,738.92
Total.....	\$80,342,900.15

*This sum does not include expenditures by the Hydrographic Office of the Navy Department for the preparation of charts and sailing directions for sale and free distribution, as the amount of such expenditures has not been separately ascertained.

* In addition considerable sums are spent by the Revenue Cutter Service, Treasury Department, for the relief of vessels in distress (roughly estimated at about \$1,500,000), but such expenditures can not be separated from those made by the same service for other purposes.

Brought forward	\$80,342,900.15
<i>Promotion of good road building</i> —Office of Public Roads, Department of Agriculture.....	120,856.56
<i>Improvement of railway operation</i> —International Railway Congress, Department of State.....	400.00
* <i>Construction, operation, and maintenance of telegraph and cable lines</i> —Signal Corps and Line of the Army, War Department.....	277,082.36
Grand total.....	<u>\$80,741,239.07</u>

Between this data and that which is reported in the last report of the census bureau for all jurisdictions other than the national government, however, there is a gap of nine years, and there is such indefiniteness and lack of detail as to make the picture of very little practical use.

If each of the governmental agencies which has to do with the promotion of transportation facilities were required to adopt a common classification and form of report (as the government now requires of railroads), legislators, executive officers and the public might think and act with some intelligence about questions of policy relating to the subject. Having such common classification and common form of reporting the annual estimates and statements of expenditures placed before congress would not only reflect what the nation is doing or proposing to do but might also reflect what each state and city is doing and what each state and city is proposing to do.

Let us assume again that the provisions which should be made for the protection of public health form a subject which should be inquired into. The ten-years-old report of the bureau of census shows a total expenditure by governmental agencies other than the national government of \$9,460,520. Of this amount about \$4,289,825 was expended by cities; \$1,373,307 by states and territories; \$1,898,759 by counties and \$1,098,630 by minor civil divisions. The analysis of expenditures for the year 1911 for the national government which was made by the commission shows that through these agencies \$6,132,739.26 were expended for the protection of public health distributed as follows:

* These expenditures (for the Washington-Alaska telegraph and cable system) are largely for military purposes.

**SUMMARY OF THE EXPENDITURES OF THE NATIONAL GOVERNMENT IN 1911
FOR PROMOTION AND PROTECTION OF THE PUBLIC HEALTH**

Research:

In pathology and medicine—

Public Health and Marine Hospital Service, Treasury Department.....	\$152,388.25	
Several international associations, State Department.....	21,934.60	
		<u>\$174,322.85</u>
In human nutrition—Office of Experiment Stations, Department of Agriculture.....		13,246.43
In entomology as affecting public health—Bureau of Ento- mology, Department of Agriculture.....		2,859.70
		<u>2,859.70</u>
Total.....		<u><u>\$190,428.98</u></u>

Relief of sick and injured:

Merchant seamen—

Public Health and Marine Hospital Service, Treasury Department.....	\$983,773.53	
Hospital at Panama and Cape Town, State Department.....	550.00	
		<u>\$984,323.53</u>
Negroes—Freedmen's Hospital, Interior Department.....		139,855.57
		<u>139,855.57</u>
Total.....		<u><u>\$1,124,179.10</u></u>

Control and improvement of food, drug, and water supply:

Control and improvement of production of—

Meat—Bureau of Animal Industry, Depart- ment of Agriculture.....	\$3,076,977.91	
Renovated butter—Bureau of Animal Indus- try, Department of Agriculture.....	14,116.10	
Market milk—Bureau of Animal Industry, Department of Agriculture.....	9,420.23	
Farm and city water—Bureau of Plant In- dustry, Department of Agriculture.....	324.01	
		<u>\$3,100,838.25</u>

Control of traffic in foods and drugs—

Bureau of Chemistry, Department of Agri- culture.....	\$761,083.04	
International Investigation of Opium Evil, State Department.....	9,119.15	
		<u>770,202.19</u>

Total..... \$3,871,040.44

Amount forward \$5,185,648.52

¹ Includes unimportant expenditures, not separately ascertained, for medical inspection of men of the life saving service and other government establishments.

Brought forward.....	\$5,185,648.52
<i>Prevention and eradication of contagious diseases:</i>	
Maintenance of National quarantine—Public Health and Marine Hospital Service, Treasury Department.....	\$477,254.33
Preventing spread of epidemics—Public Health and Marine Hospital Service, Treasury Department.....	307,606.37
Immigrant inspection—Public Health and Marine Hospital Service, Treasury Department..	162,722.83
Total.....	947,583.53
Grand total.....	\$6,133,232.05

This does not include the amount expended by the national government for the medical care of commissioned and enlisted men in the army, the navy, and the marine corps, which reaches a total of \$8,035,802.71 in addition.⁸ Although there is a gap of nine years between the figures shown by the census bureau report for cities, states, counties, and other local agencies, by comparison it is evident that the national government is one of the large factors in the problem of health conservation and necessarily must be. In handling this problem, however, all officers and the people in their thinking about the work of the government must labor at a disadvantage until more definite and up-to-date information is made currently available.

The subject of the administration of justice is a subject of immediate concern. It is evident that in this the local jurisdictions must always be an important factor. The returns by the census bureau above referred to show that the cost for courts other than federal was \$39,934,903. This was distributed as follows:

State and territorial courts.....	\$10,428,931
County courts.....	21,178,396
City courts.....	6,211,187
Courts of minor civil divisions.....	5,165,550

This does not include the law officers of state and local jurisdictions on account of which there were expended \$7,196,691. To this must be added the cost of federal courts. For the year 1911 the analysis shows that the cost of federal courts was \$5,036,566. While

⁸ Not including \$6,027,421.51 expended for conducting old soldiers' and sailors' homes which also maintain hospital wards and dispensaries.

the jurisdiction of the federal courts and state courts is established by constitutional law, nevertheless, the intimate relation of courts to subjects of public welfare is one which would make it of advantage at all times to have before the people such data as may indicate the operation of courts within the different jurisdictions and one of the means of getting to the facts bearing on questions of welfare is through financial statements and in consideration of appropriations. The fact that one jurisdiction or another is established by constitutional law is no reason why, if need be, constitutions may not be amended and the whole machinery of adjudication changed to adapt it best to the protection of the individual.

What is the expense of law making is one of special interest. What does it cost to make our laws, and is the public getting the information to which it is entitled? Our ten-year-old data show that the cost of legislation other than national was \$7,301,063. Of this \$4,689,914 was the cost of state legislation. The cost of national legislation as shown by the recent analysis for 1911 was \$11,073,660. Assuming that up-to-date current information were at all times available and that statements of fact contained such analysis as would indicate the cost of various kinds of agencies employed as in legislation, such as the cost of special commissions, legislative reference bureaus, legislative counsels, salaries of legislators, mileage, etc., these facts might have an important bearing on the subject in constitution making, as well as in statutory organic acts and more especially in gaining for measures which are intended to make legislators more efficient, the popular support required.

All of the items indicated in outlines of the classification and in standard forms of reports should be subjects of primary concern to the people—subjects to which the energies of government are directed and to which public officers are giving their best thought and energy. To become efficient, however, to accomplish such results as will gain public support for government enterprise, requires that there be such an assembling of data as will enable not only the various organs of publicity and the agencies through which public opinion is expressed to keep in touch with live facts of government, but such as will enable persons in position of official responsibility in the many governmental agencies to come into close co-operation; the desideratum would be to enable the national, state and municipal agencies to work hand in hand for the welfare of the people.

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PART TWO

Efficiency Principles Applied

EFFICIENCY THROUGH ACCOUNTING

BY WILLIAM A. PRENDERGAST,
Comptroller of the City of New York.

Efficiency is applied common sense in any field of human activity or endeavor from catching fish to governing a nation. The essential quality is and must always be the same. The American Society for Promoting Efficiency says: "Efficiency is the ratio of result obtained relative to the amount of expenditure in obtaining it." This definition describes not efficiency but the measure of efficiency. The quality itself cannot become the proprietary possession of a group of expert theorists. The word should not be permitted to have a technical meaning.

Efficiency in municipal administration means doing the things which the citizens of the municipality want done as well as possible at the smallest possible expense. The question of accounting is of great import in accomplishing this result, and the statements in this article are based upon the experience of the City of New York.

The best possible system of accounting cannot produce efficient administration of municipal affairs. On the other hand, efficient administration of municipal affairs is impossible without an adequate system of accounting to control municipal operations. The people of a community decide for themselves what they want done by their government. They tell the men whom they elect to public office and these men control the operations of government in such a way as to accomplish the things the people want. To enable these men to direct the activities of government intelligently and economically, it is essential that they should have constantly before them the facts and figures bearing upon current operations. It is only through proper accounting methods that these facts can be had.

Under the Greater New York Charter the Board of Estimate and Apportionment constitutes what would ordinarily be termed the Board of Directors of the municipal corporation. The comptroller of the city is the fiscal officer of the corporation, and, *ex officio*, the financial adviser of the Board of Estimate. The comptroller is also the chief accountant of the city. Under the charter

he prescribes accounting forms for all municipal activities. The practical results which have been obtained, and which will be obtained from the installation of proper accounting methods, can best be illustrated by the consideration of a few of the larger advantages which have been brought about within the period of four or five years since the City of New York began to give its attention to the problem of producing greater efficiency in the government.

The most important single duty of the Board of Estimate and Apportionment is to prepare the annual tax budget. This budget constitutes the plan of operation of the city for the ensuing year, and provides the money needed for the maintenance of that plan, apportioning the total amount appropriated to the different city departments for the carrying out of the almost innumerable functions of city government.

It was not until the year 1909 that any real effort was made to obtain a financial control of the expenditures contemplated in the budget. Since that time there has been an increasing effort and a constant improvement in the accounting methods used to obtain this control. The beneficial results of these improved methods have been very clearly demonstrated. As far back as 1906 the comptroller of the city realized in a measure the inadequacy of the information upon which the Board of Estimate was making its annual appropriations. He was instrumental in securing an amendment to the charter, whereby the Bureau of Municipal Investigations and Statistics in the Department of Finance was created. That bureau is empowered to gather such statistics as may be needed, not only in the work of budget making but in all fields of city activity. The Bureau of Investigations did its first effective budget making work in the year 1907. A partial attempt was made that year to show the purpose of each appropriation in the budget. Until that time the titles of appropriations had been without meaning and money appropriated had been used in many instances for purposes other than those covered by the titles of the appropriations.

In 1908 the Bureau of Investigations tried to obtain from the different city departments information upon which the Board of Estimate might determine intelligently the amount of money which would be required for the maintenance of the departments for the following year. It was found almost impossible to get such information. There was no uniformity in the classifications used by the

various departments. To remedy the situation a form for departmental estimates was prepared. This form was designed to elicit from each department the information which was then considered necessary. Each department was required to give the data of classified expenditures for previous years. The facts and figures thus collected made it possible for the budget makers to exercise for the first time an intelligent judgment in determining the necessity of previous appropriations and the amounts necessary for 1909 appropriations for the same purposes. The budget for 1909 was the first in the history of the city based upon departmental experience. It was also the first budget which gave to the Board of Estimate anything approaching a financial control of departmental operations for subsequent years. It marked the greatest step forward toward efficient administration in the history of the city.

In order that the city might gain the full advantage of the information obtained through this system of accounting, the Board of Estimate and Apportionment adopted certain rules of procedure. These rules have been amended and approved from year to year since that time. The rules first adopted were briefly these:

1. All employees receiving per annum salaries and paid entirely out of tax levy funds were shown in schedules giving the title, rate of compensation and the number of incumbents.
2. Employees receiving other than per annum compensation were scheduled by title and with a lump sum appropriation for each class of labor.
3. A resolution in the budget limited monthly expenditures against appropriations for per annum employees to a monthly rate of one-twelfth of the schedule line allowance.
4. All budget appropriations were given serial code numbers.
5. A uniform classification of expenditures was adopted as far as was possible at that time.
6. Any change in a schedule of "Salaries" and "Salaries and Wages" was forbidden except when authorized by twelve votes of the Board of Estimate and Apportionment.

Although the budget for the year 1909 was a great improvement over those of previous years, it was far from satisfactory, and the Board of Estimate and Apportionment found it very difficult of administration. Strong opposition to the enforcement of the budget

resolutions was encountered in the departments. The appropriations for salaries and wages fluctuated so widely during the year that uniform control was impossible. New forms were designed calling for much more elaborate information from the departments than that given in the previous forms. Departments were required to furnish full data regarding actual pay roll expenditures, monthly, semi-monthly and weekly, for a period of eighteen months during 1908 and 1909, with semi-annual recapitulations of these expenditures.

In the budget for 1910 the classification of expenditures for salaries and wages was carried out to a considerably greater extent than in that of the previous year. The results obtained fully justified the extra labor involved in the preparation of the budget.

Still further improvement was made in the tax budget for 1911. The 1910 budget had worked in a fairly satisfactory manner. This was especially true of the salary appropriations. Such full information had been before the Board of Estimate on the administration of salaries and wages throughout the city departments that it was not considered necessary to require the same exhaustive details of salary expenditures from the departments for the ensuing year. The Board of Estimate and Apportionment had ample information regarding the services of all employees that were paid on the annual salary basis.

The most striking advance made in the 1911 budget in the field of obtaining information in regard to payment for services was to require from all city departments schedules showing expenditures in what are known as wage appropriations, that is, pay roll expenditures for employees paid at other than annual rates. These schedules show first, each class of labor; second, each rate of compensation within each class of labor; and third, the number of days of employment.

The information thus obtained enabled the Board of Estimate and Apportionment to extend control over wage appropriations. In the 1911 budget appropriations were made for wages of employees under definite title at a definite rate of compensation, for a definite number of working days. This was necessary because some employees work every day in the year, some work every day except Sundays and holidays, some every day except Sundays, holidays and Saturday afternoons, and some for fractional parts of the year. Further differentiation was made between regular em-

ployees and temporary employees. A rough attempt was made to extend the system of control over employees whose compensation was paid only partly out of tax levy funds. No uniformity of control was attained over this class.

The principle of restricting monthly expenditures to one-twelfth of the total appropriation, which had been established in 1908 over annual salary appropriations, was extended to the appropriations for wages. The resolutions accompanying the 1911 budget provided:

1. That no transfers shall be made from appropriations or schedules of "Salaries," or "Salaries, Regular Employees," to any other appropriation or schedule than "Salaries," or "Salaries, Regular Employees."

2. That no transfers shall be made from appropriations or schedules of "Salaries, Temporary Employees," to any other appropriation or schedule than "Salaries, Temporary Employees."

3. That no transfers shall be made from appropriations or schedules of "Wages, Regular Employees," to any other appropriation or schedule than "Wages, Regular Employees."

4. That no transfers shall be made from appropriations or schedules of "Wages, Temporary Employees," to any other appropriation or schedule than "Wages, Temporary Employees."

5. That no transfers shall be made from appropriations or schedules of "Compensation, Temporary Employees," to any other appropriation or schedule than "Compensation, Temporary Employees."

6. That no transfers shall be made from any of the appropriations made herein for the various kinds of supplies and contingencies to any other than to supply or contingency accounts.

These resolutions had the effect of returning to the general fund large balances of appropriations which, under the rules governing previous budgets, would have been consumed in the different departments during the closing months of the year.

In the old days it was not unusual, in the event of the existence of a surplus in the salary account of a department at the close of the year, for favored employees, at salaries ranging from \$1,000 to \$2,500 a year, to be placed upon salaries ranging from \$10,000 to \$25,000 a year for the months of November and December.

The following quotation from the official records of the Department of Finance may prove of interest. Names are omitted for obvious reasons.

"December 31, 1895.

"First Auditor of Accounts:

"DEAR SIR:—The Comptroller has designated and fixed the salaries of the persons hereinafter mentioned for the month of December, 1895, at the following amounts:

(Office designated) \$1,583.37, or at the rate of \$18,500
a year. (This employee was on a
salary of \$5,000 a year.)
(Office designated) \$625.00, or at the rate of \$7,500 a
year. (This employee was on a
salary of \$2,500 a year.)"

Many other employees are mentioned by name, with substantial increases in salaries, for the month of December. Until the adoption of the schedule system there was no check against this form of favoritism shown to employees in all city departments.

Another very important feature of the 1911 budget was that it included no appropriations for any position or grade of position not established according to law under Section 56 of the Greater New York Charter. Section 56 provides the method by which positions in the city service and salaries for these positions are established. Recommendations are made by the Board of Estimate and Apportionment and the positions and salaries fixed by the Board of Aldermen. Up to this time hundreds of positions had been occupied and the incumbents had drawn salaries, although the positions had no legal existence.

In the making of the tax budget for 1912 the Board of Estimate preserved all that was good in the previous budgets and endeavored to accomplish two very important objects that had not been attained by the previous budgets. These objects were:

1. To complete the schedulizing of all employees of the City of New York, regardless of the funds from which they were paid, whether entirely from the tax levy, or partly from corporate stock, special and trust fund, or revenue bond fund, or entirely from all or any of these sources.

2. To extend to appropriations for supplies and materials the same system of accounting control which had proved so effective in the salary and wage appropriations.

Analytical information similar in character to that previously required regarding salaries and wages was required from the departments in regard to previous expenditures for supplies and materials. The results achieved almost entirely through improved accounting methods, as applied to budget making by the Board of Estimate, during the period from 1909 to 1912, inclusive, may be set down as follows:

1. Complete control over every employee paid out of city funds, regardless of whether they are derived from taxes, corporate stock proceeds, or other sources. This is accomplished by schedules for all salary and wage accounts.
2. Complete control over all appropriations for supplies, materials, contingencies and other purposes besides personal service.
3. A clear and definite statement of the purpose of each appropriation in the budget.
4. Prevention of the use of the appropriation for any purpose other than that for which the appropriation was originally made.
5. Prevention of the use of corporate stock proceeds for the expenses of administration, operation and maintenance.
6. Prevention of the old practice of decreasing the number of employees and using the amounts released by such decreases to increase salaries or wages of other favorite employees.
7. Prevention of the old practice of wasting balances at the end of the year, instead of leaving these balances to be transferred to the general fund.
8. Prevention of the practice of using up all the appropriation in the first few months of the year, thereby necessitating the issue of revenue bonds for purposes fully cared for in the original budget appropriation.
9. Prevention of a violation of the law which provides that no obligation shall be incurred beyond the amount of the available appropriations.
10. Prevention of the practice of impairing the efficiency of funds by running at a low rate of expenditure for several months of the year to save money to raise salaries and increase the force for the last month of the year with the object of forcing the Board of Estimate and Apportionment to make up the next year's budget on the basis of these abnormal increases.

11. The elimination of the theory that all appropriations were to be regarded by the department heads as their personal property, to be used as they pleased.

12. A uniform classification of appropriation accounts with a view to making the audit of pay rolls and vouchers easy and effective.

13. Abolishment of the old practice of paying large salaries to political favorites out of corporate stock appropriations, which hitherto were unscheduled.

14. Prevention of the employment of any person payable out of the city's funds without the express approval of the Board of Estimate and Apportionment in the form of a salary or wage schedule.

15. Abolishment of the practice of employing persons in positions not legally established, as required by Section 56 of the Greater New York Charter.

In addition to the great improvement in the public service which has taken place during the period mentioned, it is significant that, for the year 1908, before the schedule regulations of the Board of Estimate and Apportionment went into effect, the accrued balances of salary and wage appropriations returned to the general fund for the reduction of taxation, amounted to \$314,760.76. For 1909, when there was an enforcement of partial regulations, there was returned to the general fund, from the same source, \$1,081,748.34. For the year 1910, when the regulations governing salaries and wages had become fully operative, there was returned from this source to the general fund, \$1,958,730.67. When the budget for 1911 was prepared the schedule plan had demonstrated that economies could be effected. It was determined to reduce the budget and the Board of Estimate and Apportionment adopted a resolution calling upon all city departments to reduce the estimates of the previous year by ten per cent. In some of the departments this reduction was effected. As a result of the resolution, however, a large cut was made in the salary appropriations for most of the departments. Because of this fact, and the fuller information in the possession of the Board of Estimate and Apportionment, when the budget was made, salary accruals returned to the general fund from 1911 appropriations amounted to less than the previous year. The total was \$1,391,185.26.

The foregoing plan has proved so successful that similar sched-

ules are now being adopted for every corporate stock fund, special revenue bond fund, or special and trust fund. In this way the control of the Board of Estimate and Apportionment over salary and wage expenditures is complete.

The next step will be a full inquiry into the nature and quality of services given by city employees in the various departments and offices, with the purpose of establishing standard rates of payment for similar quality and quantity of work in all departments. The Board of Estimate and Apportionment has already appointed a committee to carry out this inquiry.

The ultimate purpose of the Board of Estimate to establish accounting control through the schedule and cost system over all current expenditures of city money, is in the way toward early realization.

In all probability the budget for next year will be accompanied by a cross reference complementary budget, which will set forth the expenditures of the city by functions, that is, the respective amounts to be spent for public health, education, safety, etc.

Among the duties of the Board of Estimate, second only in importance to the making of the annual tax budget, is the spending of the money of the city for permanent improvements. Money spent for the permanent improvement of the city is obtained by the sale of long-time securities known as corporate stock. Authority for such expenditures can be given only by the Board of Estimate and Apportionment and the Board of Aldermen. In 1910, the first year of the present administration in New York City, the Board of Estimate determined upon a fixed policy of treating such expenditures in a manner as closely similar to that employed in the making of the annual tax budget as the nature of the case would permit. It resolved upon the adoption of an annual "corporate stock budget."

In previous years authorizations of corporate stock, carrying many millions of dollars, were made for unnecessary purposes. Since the adoption of the budget system of dealing with authorizations, the Board has applied the same analytical methods of testing the applications of the different departments and offices as it uses in preparing the tax budget. It is now the practice to authorize corporate stock for specific improvements only and to limit the amount of each authorization. Whenever possible, the appropriation is segregated into amounts to be used for the parts of the general

work to be done. A very careful analysis has been made of existing authorizations for the sale of corporate stock, with the result that the authorizations of many millions of dollars have been rescinded, the purposes for which they were granted being regarded as unnecessary or unwise.

The Board of Estimate requires that all plans, specifications, estimates of cost and contracts for work payable out of corporate stock shall be approved by the Board of Estimate upon the recommendation of the comptroller. This form of accounting control has already resulted in the saving of many hundreds of thousands of dollars during the brief period it has been in operation. This scrutiny by the Board of Estimate of the method of expending money derived from the sale of corporate stock has resulted in a general demand for the adoption of standard plans wherever such standard plans are applicable. Standard contract forms are already in use in the employment of architects by the city for the purchase of coal and forage. Similar forms of contracts in other fields are in process of preparation.

The consideration of the application of analytical accounting methods to the purchase of supplies is the basis for the work now being done under the direction of the Board of Estimate and Apportionment by the Committee on the Standardization of Supplies.

In one aspect this effort to standardize supplies and establish purchases on a schedule cost basis is properly to be considered a form of accounting. Its essential quality is adequate accounting control.

The general subject of standardization and codification of supplies is, however, so large in its scope that it cannot be treated satisfactorily in an article of this character. New York City spends annually for supplies between twenty millions and twenty-five millions of dollars. The list of articles now under consideration by the Committee on the Standardization of Supplies comprises more than fifty thousand line items. Standard specifications for about one-third of these articles have already been prepared.

In order to supplement the work done by the Board of Estimate and Apportionment in the matter of appropriations, it is necessary that there should be available at all times a current report, which shall show as clearly and succinctly as possible what is being done from day to day with the city money. The effort to provide such a report has taken concrete shape in the installation of the so-called

new accounting system. The first purpose of this system is to give accurate periodical information to the city authorities, through the comptroller's office, regarding all financial transactions of the city government. The second purpose is to provide a means of preventing illegal or improper expenditure of the city money. Every large corporation and business house has a similar system of accounting control, modified by the difference in the character of its transactions. Experience has shown that, in the larger and more complex business affairs, such an accounting control is absolutely essential to efficiency. When the accounting system is fully installed in all the city departments, uniform methods of recording transactions and of reporting them will be in force throughout the city; through the establishment of stores and expense accounts now in process of formulation and installation, figures will be instantly available, showing the actual expenses of all classes of service and all classes of supplies.

As a necessary preliminary for the establishment of correct opening balances in the city's new general ledger covering the fifteen thousand accounts on the books of the Department of Finance, a reconciliation was undertaken of the records in that Department with those in the one hundred and thirty outside departments, bureaus and offices. Already this has resulted in the transfer of almost ten millions of dollars to the general fund for the reduction of taxation.

That amount was found in open appropriation and fund accounts not needed for the liquidation of liabilities for maintenance and operation in the years for which the appropriations were originally made. In consequence, the 1912 tax rate is about twelve cents lower on the one hundred dollars of valuation than it otherwise would have been. The writing off of these unencumbered balances, which had been deferred for about twelve years, principally because of the inertia of the past administrations, had also resulted in removing from the books of the city over five thousand inactive accounts, thus reducing the amount of accounting and reporting necessary to be done in connection with these accounts.

A current reconciliation has now been installed based upon the monthly checking of the accounts in the administrative departments with the controlling accounts in the Department of Finance.

Much has been said and written, especially in very recent times, regarding the value of the periodical balance sheet. The

purpose of the balance sheet is to set forth the financial condition of a business enterprise or a municipal corporation at a given date. It is a statement of assets and liabilities. In the case of the municipality the resultant balance would show at any time the condition of the public trust with respect to its current assets and liabilities, and would indicate whether there was a surplus available for lessening a succeeding year's tax levy, or a deficiency which would have to be provided for. Such a balance sheet will be one of the principal features of the general ledger now being set up in the Department of Finance of New York City.

The general ledger will be at the same time a periodical report of all the financial transactions of the city and a proof of the full accounting control over those transactions.

It is equally important that there shall be periodical statements of revenue and expense correlated with receipt of revenue and disbursement of authorized expenditure. Such a statement should include elements which do not appear on the balance sheet, such elements as moneys borrowed on short time loans to meet current administrative expense, the amounts collected from various sources, and the like.

The difference between accounting as a factor in efficiency, without a study of the conditions under which the accounts are to be operative, as compared with the results which are obtained by a method separate from accounting, is shown in my experience with the disbursement side of the audit in the Department of Finance.

The new form of accounting has been in operation in that office for two years. Under the organization which prevailed six months ago, the average interval from the presentation of a voucher for payment until the warrant in liquidation of that voucher was ready, approximated nine days. Without any change in the system of accounts or in the personnel of the force, but by a rearrangement of the work and the introduction of one or two simple labor saving devices, I feel sure that within the next six months we will be able to pay a majority of the city's claims within three days, and most of them within five days of their receipt in the hands of the Auditor of Disbursements of the Department of Finance.

I found, for instance, that the auditors were using three-quarters of their time, not in the work of audit, but in making calculations and extensions and in writing warrants. Without increasing the

clerical force in the audit room, I rearranged the work so that one staff of clerks did nothing but write warrants, another staff devoted themselves exclusively to calculations and extensions, leaving to the auditor the work properly belonging to his title. Two results were accomplished at once by this change. First, all the work in the audit room was cleared in a day, where heretofore vouchers would be delayed two or three days. Second, the proper segregation of the work showed that the audit could easily be done by ten auditors, where sixteen auditors had heretofore been used, and the actual number of hours available for audit by these ten auditors is considerably more than the sixteen auditors could devote to audit under the old system. Six men are now employed in writing the warrants, under the segregation previously referred to. Two typewriting operators are now wholly engaged in writing warrant schedules. I have in mind the use of a typewriting machine which will permit the two typewriting operators to write the warrants at the same time the schedules are written. Thus the six men now engaged in writing warrants will be released for other work in the department, and the department work at the same time expedited.

In the room of the Auditor of Disbursements, the vouchers, when received, had to pass from hand to hand among the accountants for a whole day before they were finally registered and ready for inspection, or for the engineers or for the audit. My labor saving device here is a set of three typewriting machines, the operators of which will transcribe from the vouchers, when received, all the necessary accounting information on slips in quadruplicate, which will be distributed to the various accountants, thereby allowing the voucher to progress at once for the further steps in audit instead of being delayed for a day as at present. In addition, a proof will be set up on one of the machines which will prove the accuracy of the registration, also give us our daily proof and prepare our fund report for the general ledger. This proof and reporting now takes the time of six men. Three typewriting operators will do that work, besides cutting off practically one day from the time of audit and also largely increasing the efficiency of all clerks working on our accounts.

The clerks working on accounts heretofore have posted from the vouchers, carrying them from book to book. Sometimes three or four men would be waiting their turn to make their postings in a given book. By the use of the posting slips a set of books may be

assigned to one man who will make all the entries in those books without the former confusion and waste of time. A posting clerk, under this system, should easily do twice more work than under the system previously in use.

In order to obtain efficiency through accounting, it is necessary to introduce recording methods that will reflect accurately the conditions of a municipal or private business. It is equally important to conduct the accounting in a manner that will secure from each person whose services are used, the largest possible product of intelligent labor, and, whenever possible, to introduce such mechanical elements as will insure speedy work and a conservation of human activity.

Accounting control such as that now being established in the City of New York, such as that which the United States Government on an even larger scale is attempting to establish in Washington, can never produce efficiency in government. It cannot furnish the elements of intelligence and energy which are the essentials of efficiency. It can and does, however, expose inefficiency, guard against dishonesty and clear the way for efficiency.

RESULTS OBTAINABLE THROUGH REORGANIZATION OF ACCOUNTING METHODS

By B. J. TAUSSIG,
Comptroller of the City of St. Louis.

To the citizen who has occasion to deal with a municipal department, the administrative procedure to which he must conform appears unnecessarily complex. This impression is shared by the municipal official newly elected to office, who is at once confronted with obstacles in the way of his desire to administer his office as he would administer a private enterprise.

There are necessarily many causes which contribute to this condition of affairs. They will not be considered here, for there is no need to demonstrate the obvious. It is sufficient to say that municipal procedure of to-day is the result of an attempt to conform to the requirements of the law on the one hand and on the other to the practical necessity of getting work done. That it has been necessary to do this work through the agency of men appointed for other reasons than business efficiency, affords sufficient explanation of the situation which must be met by those who are concerned with the introduction of business methods in the conduct of municipal affairs. In the same connection, however, it is but fair to recognize that the lack of effective civil service provisions and the consequent insecure tenure of office are important contributing causes to the situation.

The problem has been approached from various viewpoints. The favored method has been that of what is termed "charter-revision." The results have usually been disappointing, because in most cases changes in charters have been made without adequate consideration of existing organization and procedure, which, whatever its defects, furnishes the essential evidence of the real needs of the situation. It is only natural that this should be so. We must clearly recognize the fact that law, as enacted by the legislative bodies and expounded by the courts, is frequently a pace behind the practical requirements of business, whether private or public. "Trade customs" are evolved from the necessities of busi-

ness, and after their worth has been demonstrated in practice, legislatures will adopt them, and eventually the courts will sanction them. Existing procedure, like trade custom; affords the logical point of approach for the person who is concerned with the reorganization of municipal procedure or the revision of charters, although, like trade custom, it may be used as a cloak for those who are violating either statutory requirements or adopted standards of business morality. In short, we must first make a diagnosis; determine what is being done, how it is done, and who does it, and consider the facts thus disclosed in their relation to legal requirements. The result will inevitably show that, while the procedure itself is defective when compared with the standards of private business, its shortcomings are partly due to inappropriate or antiquated legal requirements. With these facts as a basis, we may then propose a remedy with the conviction that our plan of reorganization must stand the test of practical working, since it has been based upon a thorough knowledge of practical needs; and, it matters not whether the proposed remedy contemplates reorganization of administrative or accounting methods merely, or charter revision involving changes in organization or in the nature and distribution of authority and responsibility.

It should be stated at the outset that a reorganization of accounting methods of a municipality is not merely an attempt to reform the city's system of bookkeeping. Accounting cannot be considered apart from organization, administration and performance. In order that the evidence shown by accounts may be properly interpreted, there must be means of determining standards of merit in goods and services, and there should be provision for certification and approval by responsible officials, based, if necessary, upon similar endorsement by responsible agents who know the facts in each particular case, and are qualified to pass judgment upon them.

It should be said, also, that the reorganization of municipal accounts is attended with difficulties which do not arise in reorganizing the work of private corporations. After a practical system has been devised, there is likely to be more or less difficulty in obtaining legal authority to effect changes in organization and in the distribution of functions as between related departments. There is certain to be opposition among the municipal employees who are required to conform to the provisions of any new system. The exist-

ing procedure in many cases represents the response of legislative bodies to appeals to some personal interests. The resistance to a change of method, therefore, is frequently inspired by the fear that the information procured by a new system would reflect on the integrity or efficiency of the managers. The system devised for a municipality, as well as that for a private corporation, though the object may be stated in the reverse order of importance, should be knave proof as well as fool proof.

Not a little of the confusion which exists in municipal accounting is due to the fact that there has been no single point of view from which the subject might be approached. It is true that we have had chief accounting officials with more or less authority to prescribe forms and methods, but "conflicting systems" have been allowed to develop in the various branches or departments. The chief accounting official has been dominated by the necessity of conforming to law and of accounting for the disbursements of the appropriation funds, with too little concern as to the manner in which appropriations are made, and as to the evidence upon which disbursements are made.

The heads of administrative departments have not been concerned with the form of the ordinances of appropriation, nor with the preparation and submission of evidence necessary as a basis for audit, except as this was necessary to relieve them of responsibility for the handling of funds. Their chief interest has been, and is, technical, and as a result their systems of procedure tend to reflect such facts as are thought to be of greater service in the particular department.

The public, however, is concerned chiefly with public service in relation to cost.

Recognizing the necessity of presenting statements of services in relation to cost, the municipal accountant is adopting actual accounting methods; employing accounts which represent "revenues" and "costs." This marks a departure from the traditional municipal method of accounting primarily for "receipts" and "disbursements." The cost basis will serve the interests of the administrative official. It will also enable the chief accounting officer to compare costs as between various departments. With statements presenting such data, department heads will be better prepared to approach the appropriating body and defend their budgetary estimates. This

would make it possible for the appropriating body to challenge specific items, not with reference to the corresponding items in the budget of the previous year, but with the corresponding item in other departments where similar services are performed. This method makes every item subject to challenge upon the basis of fact, and an item once allowed may not be necessarily continued simply because of the sanction of tradition. In other words, the cost basis puts the burden of proof upon the official submitting the estimate and not upon the member of the appropriating authority who wishes to challenge an estimate. It is not difficult for anyone familiar with the budgetary method to recall instances where questionable items have been passed by without challenge simply because the information necessary to raise the question on that particular point was not available. Cost basis requires presentation of estimates upon the basis of results rather than upon the basis of expenditures, thus providing a test of efficiency.

To measure the efficiency of services, adequate time reports with proper certification and approval are required. Forms of this kind put a check upon one of the greatest causes of waste and set up standards of labor and efficiency which automatically separate the workers from those who cannot or will not perform the service due, demanded and paid for. However, in the introduction of such records care must be exercised not to require reports in such detail from employees engaged in general duties so that the required statement of their work would become more irksome to them than its actual performance. While gross extravagance has existed in the employment of ordinary common labor on city work, and it is imperative that the actual service rendered by the large number of employees of that class should be reported, this should be through the medium of group or gang reports, submitted by overseers who can testify thereto of their own knowledge, instead of requiring the laborers to prepare reports. Individual reports cannot be secured in these cases for the reason that the mere mechanical act of writing is more of an effort to the ordinary workman than his usual form of manual labor. The detailed reports should be assembled in work-records which can be brought into agreement with pay rolls, and which can be made to furnish the essential information required for effective administration.

The fact that city property has been subject on occasions to

surreptitious abstractions demands a controlled property inventory which establishes responsibility for its care. A few years ago, a city set of standard weights and measures disappeared in the removal of an office from one side of the city hall to another. In that same city a dredge was stolen from the water front, and it was only after a considerable period that the fact became known. In the case of materials and supplies, and work performed for the city by others than those in the municipal service, the requirement of acceptable evidence of delivery of specified quality and quantity, eliminates a large part of the waste in the purchasing end of the city's business. That it discourages fraud and collusion goes without saying. Stores accounts and reports of materials used are the natural sequences to the purchase records, and complete the data required to determine the economy of purchases. The important fact remains that the data of true costs are generally lacking in municipal accounting. Pending the introduction of a comprehensive cost system, it is necessary, in order to exercise judgment regarding current requirements, to take advantage of the information contained in the appropriation accounts, because these accounts can be analyzed, revised, and uniformly classified much more expeditiously than a cost system can be fully installed in an organization where there exist the limitations of the personal element already referred to.

The difficulty of transacting private business with the city is generally recognized. An applicant for a permit to do a certain kind of work which is to be supervised by representatives of the city, or for which a fee is required, should not be delayed unnecessarily by the details of procedure. The filing of applications and securing of permits for the several classes of building, sewer, street, or other work to be performed by private individuals can be expedited by centralizing these functions. Fees, licenses, or charges for municipal service frequently accrue in such a manner that the determination of the amount of a charge rests largely with the individual who must record and report it. Detailed audit of the accounts would eventually disclose inaccuracies or fraud in such a case, but, as a current safeguard, financial stationery should be used for the value of which individuals can be held definitely responsible. The financial stationery which has been used by the City of St. Louis in the billing of property taxes has been under fair control. The introduction of distinctive municipal stationery and the simultaneous registering

and billing of taxes will afford complete control over this class of revenue, and will facilitate the service to the public. In the matter of water licenses, as the term is used in St. Louis, the various rates and methods established by ordinance would require an unwieldy plan and an extraordinarily large force in an effort to establish the same kind of proof in the aggregate which could be used if there were but one or even a few different rates. The plan which has been adopted, however, contains the assurance of a complete accounting for the total amount charged either through collections or through satisfactorily approved rebates. Variations in the revenue are easily determined, and the clerk of each collection district can be held responsible for the value of the licenses until payment thereof has been received by cashiers. The plan provides also for the preparation at one writing of the several documents which are required for issue to the public and for accounting purposes.

In fact, in establishing the methods relating to all of the revenues of the city, as well as those relating to the expenditures, there has been in mind the necessity for a procedure which would not only establish individual responsibility and verify the correctness of the financial returns and the reports made by the officials of departments, but would tend in every way possible to facilitate the public's transaction of business with the city. Methods based on the convenience of the clerks of a department must give way to those designed first to make it easier for the people to transact their business and in less time. For instance, the water licenses referred to should be prepared in advance of the time when the consumer calls to make his payment of the assessment, not while he stands around waiting for it. Instead of being a matter of half an hour, it should be one of two or three minutes at most. Instead of each of several window clerks having to perform all the functions necessary to assessing the tax, making out a license, and running a ledger, the several duties should be performed by clerks assigned to a particular operation only.

Uniformity in accounting methods and documents, as between departments, facilitate comparisons of revenue as well as of costs of like or similar services. As an administrative by-product, it makes it possible to shift employees from task to task, or even from department to department without loss of effort. That puts the emphasis upon that sort of procedure which is based upon present needs rather than the memory of past methods. Under the new

system, the "old man with a memory" gives way to the man of any age who can follow instructions.

The authority for the work of reorganization which we are now conducting in St. Louis was contained in a special ordinance passed by our municipal assembly early last year. However, the business administration of cities has been attracting so much attention and there is such a demand for those qualified to render the kind of service necessary that we were unable to commence revision until late in the year. It was necessary to secure men not only equipped as accountants, but as municipal experts. From the outset we have had the hearty co-operation of the mayor and most of the administrative heads of departments.

Care is being exercised to guard against creating such a cumbersome or elaborate method that a large expenditure of funds would be required to operate it. In certain respects reorganization has been somewhat a slow process through the necessity of taking care of current affairs under old methods. The detailed inquiry demanded by conditions disclosed in our original general investigation of departmental methods has been another cause for diverting services which it would have been preferable to keep strictly employed on constructive work.

Much of the material which is accumulated in the progress of the work at this time will be of value for future comparisons. There is undoubtedly a considerable improvement in present efficiency which cannot be measured in specific terms, but is due to the moral effect of the knowledge that such an examination and study of present conditions is now in progress.

THE APPLICATION TO A MUNICIPALITY OF MODERN METHODS OF ACCOUNTING AND REPORTING

BY JOHN M. WALTON,
City Controller of Philadelphia.

Some time ago a prominent banker, while discussing with me a prospective bond issue for the City of Philadelphia, asked if a statement could be had of the city's financial condition and the results of its operation. I showed him our annual and other reports giving receipts, expenditures and indebtedness, but he intimated that he wanted to see more than this; that he wanted to know what the city owned as well as what it owed; the results of its operations each year; the distribution of expenditures between permanent improvements and current expenses. Much the same questions, in varied form, have been put to me a number of times in the last few years and to such an extent that I determined in 1910 to have prepared an inventory of the city's permanent properties as the first step in placing the accounts of the city upon an asset and liability, revenue and expense, and fund basis.

The inventory was taken by the several departments and bureaus of the city and county in November and December, 1910. The unaudited total of the inventory as shown in the balance sheets at December 31, 1910, amounted to \$250,351,352.63. The audit of the property inventory which included the taking up of properties not included in the original inventory resulted in a net increase of \$11,056,796.91 in the cost value of the unaudited inventory, while the acquisition of lands, structures, non-structural improvements and equipment during the year 1911 amounted to \$9,506,408.55, leaving the property account at December 31, 1911, amounting to \$270,914,558.09. All property was taken up at cost. In some few cases, where properties were originally returned at an estimated present value instead of at cost, this method resulted in a considerable reduction in the audited figures.

The audit of the inventories was made to ascertain: (1) that they had been made by responsible officials and that titles, dates and signatures were correct; (2) that all city property of a permanent

nature had been included and that property not of a permanent nature had been excluded; (3) that duplication of properties or entries in error did not exist; (4) that all property was correctly described and classified and that clerical inaccuracies did not exist; (5) that original cost values, as shown, were accurate; and (6) that present values had been established with due regard to depreciation and obsolescence.

In determining whether all real estate and improvements had been reported, and to eliminate duplications and other errors of entry, the co-operation of the Board of Revision of Taxes, and the Bureau of Surveys of the Department of Public Works was obtained. In arriving at an adequate reserve for depreciation of permanent properties, the assessed values of assessable property as determined by the Board of Revision of Taxes was taken as being their present value. On all other structures and equipment, a reserve, based on their estimated life, was calculated. It is believed that the reserve for depreciation account will be of increasing importance as time goes on and more accurate data are collected bearing upon the varying rates of depreciation upon property. When rates of depreciation have been accurately determined, they form the most accurate basis for appropriations for the repair and replacement of property resulting from wear and tear and obsolescence.

An analysis of expenditures by funds (general, loan and park) was begun as of January 1, 1911, in order to distinguish between expenditures for expense and expenditures for capital outlays (land, buildings, non-structural improvements and equipment) and to determine the relative use of loan moneys for expenses and general fund moneys for permanent improvements. In 1911, the net use of general fund moneys for permanent improvements was \$1,184,-954.14. This analysis of expenditures furnishes currently and in detail the acquisition of permanent properties so that the records of the city controller's office may show at all times of what the city is possessed. A property ledger contains in several hundred accounts the details that show the cost value of each class and sub-class of property. A property record contains the respective amounts of property by cost value chargeable to each department and bureau.

The analysis of expenditures is a first step toward the determination of cost of operation. This is a new departure in municipal accounting, it being thought in the past that exhibits of the cash

receipts and expenditures of the government were sufficient to enlighten taxpayers as to the results of operation of their municipal governments. If comparison is made between the latest reports of any of our well organized and managed railroads and industrial corporations and the reports of the same companies going back a period of, say thirty years, an investigator is astonished at the wealth of detail data bearing upon the cost of operation of each department and division of the enterprise that has been developed in the later reports. Revenues are also set forth in great detail. The cash statement of receipts and expenditures is rarely if ever seen in modern corporation accounting. I am convinced that in order to operate public business as private business is operated, and that apparently is the natural evolution that may be expected from the conditions of to-day, it is necessary to develop a system of accounting and reporting that will show year after year for comparative purposes and for efficiency tests the results of municipal operations.

In working toward this end the analysis of expenditures was commenced, which in addition to developing the facts as above stated, furnishes a secondary analysis by objects along the lines laid down by President Taft's Commission on Economy and Efficiency. Previously, only the classification by appropriation items for each department was available which made difficult if not impossible comparisons between departments and bureaus with a view to efficiency.

In order to establish and control the asset and liability, revenue and expense and fund system of accounting a general ledger was opened as of January 1, 1911. This ledger is designed to contain in summary form the accounts necessary to produce a set of financial statements showing the financial condition of the city, the condition of its several funds, and the results of operations for a given period, let us say a month, a quarter, or a year. A summary consolidated balance sheet as of December 31, 1911, is here exhibited. Many of these accounts in the general ledger control detailed ledgers such as the property, taxes receivable, water rents receivable, miscellaneous accounts receivable, appropriation and contract ledgers. The purpose of the detail ledgers is to show the condition of each of a large class of accounts that are represented by one controlling account in the general ledger. Thus arranged, the detail ledgers may be proven periodically to their respective controlling accounts in the general ledger by means of a trial balance.

CITY OF PHILADELPHIA
Summary Consolidated Balance Sheet as of December 31, 1911, Showing Assets
Liabilities, Appropriations and Reserves.

	General Account. For further detail see Exhibit "B," opposite page 14, and Exhibit "E," opposite page 20.	Capital Account. For further detail see Exhibit "C," opposite page 16, and Exhibit "E," opposite page 20.	Sinking Fund. For further detail see Exhibit "C," opposite page 16.	Special and Trust Account. For further detail see Exhibit "D," opposite page 18, and Exhibit "E," opposite page 20.	Total.
ASSETS					
Cash.....	\$5,858,436 38	\$15,494,649 08	\$123,197 02	\$86,550 48	\$21,562,833 56
Amounts due to City—Accounts receivable.....	3,220,763 81	1,543,500 00			4,764,263 81
Investments (City Loans).....			14,050,642 94	321,182 35	14,371,825 29
Land, buildings, equipment and other permanent improvements.....		270,914,558 09			270,914,558 09
Total assets.....	\$9,079,200 19	\$287,952,707 77	\$14,173,839 96	\$407,732 83	\$311,613,480 75
LIABILITIES					
Bills and payrolls audited.....	\$2,099,926 80	\$624,204 30		\$423 98	\$2,724,555 08
Warrants payable.....	626,991 57	11,964 05			638,955 62
Temporary loan.....	1,200,000 00				1,200,000 00
Mortgages payable.....		1,006,500 00			1,006,500 00
Funded Debt.....		109,829,800 00			109,829,800 00
Other liabilities.....	22,141 33		\$30,934 72	18,873 40	71,949 45
Total liabilities.....	\$3,949,059 70	\$111,472,468 35	\$30,934 72	\$10,297 38	\$115,471,760 15
Excess of assets over liabilities.....	5,130,140 49	176,480,239 42	14,142,905 24	388,435 45	196,141,720 60
	\$9,079,200 19	\$287,952,707 77	\$14,173,839 96	\$407,732 83	\$311,613,480 75
APPROPRIATIONS, RESERVES AND FUNDS AVAILABLE FOR APPROPRIATION					
Loans authorized and unissued.....		\$2,425,000 00			\$2,425,000 00
Excess of assets over liabilities (as above).....	\$5,130,140 49	176,480,239 42	\$14,142,905 24	\$388,435 45	196,141,720 60
Total.....	\$5,130,140 49	\$178,905,239 42	\$14,142,905 24	\$388,435 45	\$198,566,720 60
Less—Appropriations and reserves:					
Appropriations (unencumbered balances).....	\$662,659 08	\$8,073,640 51		\$2,290 60	\$8,738,590 19
Reserves (see Exhibits "B," "C," "D," and "E").....	621,810 46	58,678,599 75	\$12,968,073 50	379,440 56	72,647,924 27
Total.....	\$1,284,469 54	\$66,752,240 26	\$12,968,073 50	\$381,731 16	\$81,386,514 46
Excess of assets and estimated receipts over liabilities, appropriations and reserves.....	\$3,845,670 95	\$112,152,999 16	\$1,174,831 74	\$6,704 29	\$117,180,206 14
Distributed as follows:					
Excess other assets over reserves.....	\$1,805,243 14		\$1,174,831 74		\$2,980,074 88
Excess properties over Funded Debt, mortgages payable and reserve for depreciation.....		\$112,052,999 16			112,052,999 16
Funds available for appropriation.....	2,040,427 81	100,000 00		\$6,704 29	2,147,132 10

By a recent segregation of the bookkeeping and auditing work of the auditors of disbursements in the city controller's department, the keeping of twenty-two appropriation ledgers and twenty-two contract ledgers, which were previously distributed among all the auditors, has been assigned to two of the auditors as their exclusive work. The other auditors are thus left free to give their entire time and attention to auditing work. The concentration of the bookkeeping has greatly facilitated the preparation of reports upon the condition of appropriations balances and contract reserves. Beginning with January, 1912, reports have been made to city councils monthly showing the condition of each item of appropriation.

EFFICIENCY IN CHILD SAVING

BY JOSEPH S. NEFF, A.M., M.D.,
Director of Public Health and Charities, Philadelphia.

As nearly one-half of the mortality of infants under one year of age is preventable, increasing interest is being aroused to such an extent in its study and prevention, that child saving activities have been organized in most of our American cities, many of them through the instrumentality of the National Association for the Study and Prevention of Infant Mortality.

There are many associations looking to the care of the mother before the birth of the child; to securing legislation to prevent improper marriages; to controlling the "black plague;" to suppressing the free traffic in liquor, which plays such an important part in heredity; to preventing the propagation of defective classes, a prominent factor in causing infant mortality—as a recent study of this subject in Philadelphia has shown that forty-one per cent of all children born of feeble-minded women die in infancy; and to dealing with the whole problem through the science of eugenics.

Efficient work is performed and some good results are obtained through private agencies by the establishing of milk stations, child welfare associations, children's clinics with social service, lectures to mothers and "little mothers," and various undertakings for the welfare of the child. The municipality makes a brave effort to obtain results through generous distribution of literature; by public bulletins, through the newspapers and magazines; by the establishment of open-air hospitals on boats, river piers and in parks; and through the control of maternities and baby farms by licenses and inspections. But as the best results are obtained through education, as ignorance is the greatest barrier to all progress, the highest standard of efficiency assuring the greatest results can be reached only by entering the sanctity of the mother's home, by one of her own sex who is able to speak her language and who, through sympathy, kindness and knowledge, gains the mother's confidence. This is accomplished by the visiting trained nurse, the only means of reaching the greatest majority who cannot or will not avail themselves of the opportunities afforded by the various methods above mentioned. The practicability of this service is demonstrated by the experience

of Philadelphia in the past two years. Eight trained nurses were employed whose energies were confined to a certain circumscribed area in order that fair comparisons could be made. The general publicity campaign, the maintenance of hospitals in the parks and on the piers, the modified milk stations and other activities affected the entire city about equally, so that any difference in morbidity and mortality between the wards 2, 3, 4 and 5 in which the eight special nurses worked and the city at large can be properly attributed to the work of these women.

In order to make the demonstration as valuable as possible, an insanitary group of wards was selected, with poor housing facilities, poor plumbing and much surface drainage, having a highly congested population, largely foreign and ignorant, with a high death rate and the largest number of infants per thousand of population in the city.

The average death rate per thousand of population for five years preceding 1911 in the entire city was 17.68; in these wards it was 21.33. The average birth rate per thousand of population for five years preceding 1911 in the entire city was 24.18; in this district it was 43.37. There were 147 people per acre in the district, compared to 19 per acre for the entire city.

The comparison of statistics of 1911 as compared with 1910 is as follows:

	Entire City (47 wards) Per Cent	Wards 2, 3, 4, 5 Per Cent
Reduction in mortality in infants under one year of age....	11.8	27.3
Reduction in mortality from diarrhoea and enteritis in infants under two years of age.....	22.0	34.6
Reduction in mortality from pneumonia.....	8.0	17.0
Increase in mortality from tuberculosis of lungs.....	3.0	1.0
Reduction in mortality from epidemic and infectious diseases,	3.0	2.6
Decrease in mortality from bronchitis.....	14.0	35.0
Decrease in general mortality.....	2.8	11.3

Figures other than those concerning infant mortality are given as the nurses, by instruction, cover the prevention of disease, general sanitation and hygiene.

There should be a municipal department of child hygiene in all large cities, which, co-operating with the various private activities and charity associations in the same line of work, would increase the standard of efficiency in the study and prevention of infant mortality.

EFFICIENCY IN THE FISCAL OPERATIONS OF CITIES

By EDMUND D. FISHER,

President of the National Association of Comptrollers and Accounting Officers,
and Deputy Comptroller City of New York.

Efficiency is a relative term. Accomplishment in municipal administration is more or less restricted by the lack of standards of efficiency under civil service and by the lack of continuity of management, as well as through the inherent political distraction of official life.

Much, however, has been accomplished in the various cities of the country during the last decade—partly through the awakening of civic interest impelled by the high costs resulting from municipal extravagance, and partly through the co-operation of civic organizations such as bureaus of municipal research, citizens' unions, and national associations and leagues such as the National Municipal League and the National Association of Comptrollers and Accounting Officers.

This article, however, will refer only to some of the newer methods of financing adopted by Hon. William A. Prendergast, comptroller of the City of New York, who has developed the principle of efficiency in municipal administration with the vigor and intelligence of an experienced business man. As the annual movement of the receipts and disbursements of the City of New York is over half a billion dollars, the importance of its finances in domestic and international relations is apparent.

As the basis for administrative and financial reform, the comptroller had prepared for departmental and public use a clear and comprehensive statement of the actual condition of the city's finances at the time he took office. This statement outlined, first, a definite policy of funding amounts borrowed against uncollectible taxes, and providing for their cancellation partly by issues of corporate stock and partly through annual instalments in the budget to be raised by taxation, and, second, the policy of separating money borrowed for public improvements from money borrowed in anticipation of current revenues; thus preventing the use of corporate stock (bond) funds for

current purposes. The best evidence of the effect of this cleaning-up policy is the fact that, while on January 1, 1910, there were \$60,000,000 outstanding in revenue bonds, the amount outstanding on January 1, 1912, was but \$47,600,000, or a reduction of \$12,600,000; and this notwithstanding the rapid growth of the city's business and the fact that its annual current requirements increased by at least \$10,000,000 during the period mentioned.

As financing the city's public improvements and current needs is among the most important functions of the comptroller and involves the borrowing of large sums of money, attention was first devoted to correcting certain disadvantageous practices which have existed in New York City's financial management since its organization. Perhaps the greatest evil which prevailed was the necessity of borrowing money in anticipation of the collection of taxes which were not due under the law until more than nine months after the beginning of the fiscal year. In 1910 the borrowing and re-borrowing for this purpose aggregated \$200,000,000. In 1909 one of the chief items of current expenses was the interest for such anticipatory borrowing, which in that year amounted to \$5,200,000.

In the spring of 1910 a measure was introduced by the comptroller in the New York State legislature, permitting the issuance of what have become known as "Revenue Bills," which are practically equivalent to revenue bonds or revenue warrants. This new form made possible the borrowing of money in London or Paris, frequently at much lower rates than were obtainable in American markets. This principle also affords an occasional opportunity of realizing profits on exchange. The total amount of such borrowings abroad during the year 1911 was approximately \$38,500,000, which, expressed in terms of foreign currency, amounted to 120,000,000 francs and 3,200,000 pounds sterling. The condition of the exchange markets during the past year was such that, in borrowing sterling abroad, exchange was sold at a rate sufficiently high, namely, 4.8650, to permit of the purchase of a "cover" for fall delivery at 4.8550, being a profit of one cent to the pound. In this way a saving of \$20,000 was effected and the average rate of sterling borrowing was reduced from $3\frac{1}{4}$ to 2.95 per cent.

As it is also necessary to finance tax arrearages, it is at all times practicable to renew items where exchange is not sufficiently advantageous to make payment of maturing bills desirable. During the

month of December, 1911, foreign maturities aggregating \$7,000,000 were so renewed, with the general result in international relations involved as in effect to correspondingly strengthen this country's reserves. Partially because of this new financial policy and partly by reason of cautious borrowing, the annual interest account of the city has been reduced from its 1909 "high-water mark" of \$5,200,000 to the comparatively low annual charge for this purpose in 1911 of \$3,800,000, notwithstanding an increasing volume of business.

The law which fostered this enormous amount of anticipatory borrowing, however, was manifestly unsound. Consequently, in 1910, an investigation of the methods of collecting taxes in various American cities was initiated. Out of thirty cities interviewed concerning the subject it was found that eight, Cleveland, Baltimore, Kansas City, Indianapolis, Los Angeles, Fort Wayne, Topeka and Washington, D. C., were collecting on the semi-annual basis, and that the average date for the collection of taxes was about four months after the beginning of the fiscal year. In many cases collections are made as soon as thirty days thereafter. It was also found, through correspondence with authorities abroad, that, in London, municipal rates (taxes) are levied half-yearly, in advance, and in some districts an option is given whereby payment may be made quarterly. This is regarded as a special privilege and is particularly desired by the people. The custom of levying rates (taxes) half-yearly is also in vogue in the British provinces.

Attempting to change the habits of the great City of New York in this respect seemed rather a huge task at the outset, but the work was begun and consummated. The technical language of the act adopted for the semi-annual collection of taxes follows:

All taxes upon personal property and one-half of all taxes upon real estate shall be due and payable on the first day of May and the remaining and final one-half of taxes on real estate shall be due and payable on the first day of November. All taxes shall be and become liens on the real estate affected thereby on the respective days when they become due and payable as hereinbefore provided and shall remain such liens until paid.

The second half of the tax on real estate which is due as hereinbefore provided on the first day of November following the payment of the first half may be paid on the first day of May or at any time thereafter, providing the first half shall have been paid or shall be paid at the same time, and on such payments of the second half as may be made in such manner prior to November first a discount shall be allowed from the date of payment to November first at the rate of four per centum per annum.

Another change in the method of financing municipal requirements which has proven particularly advantageous to the City of New York is the marketing of corporate stock (bonds), so far as practicable, through but a single sale in any one year. This practice affords the bankers and brokers, who are practically the chief bidders at corporate stock sales, ample opportunity to market the securities so purchased without fear of the depreciating tendency of frequent sales. Large sales, however, necessitate large bank balances during the period of disbursement, with the consequent loss of interest. Partly for this reason and partly to secure flexibility in financing, legislation was enacted which authorized the comptroller to issue what are known as "corporate stock notes." The provisions covering their issue are as follows:

The comptroller is authorized to issue, whenever he may deem it for the best interests of the city so to do, bills or notes, hereinafter described as "notes," maturing within a period not to exceed one year, in anticipation of the sale of corporate stock duly authorized at the time such notes are issued. The proceeds of the sale of such notes shall be used only for the purposes for which may be used the proceeds of the sale of corporate stock in anticipation of the sale whereof the notes were issued. All of such notes and any renewals thereof shall be payable at a fixed time, and no renewal of any such note shall be issued after the sale of corporate stock in anticipation of which the original note was issued. In the event that a sale of such corporate stock shall not have occurred prior to such sale the comptroller shall, in order to meet the notes then maturing, issue renewal notes for such purpose. Every such note and renewal note shall be payable from the proceeds of the next succeeding sale of corporate stock. The total amount of such notes or renewals thereof issued and outstanding shall at no time exceed one-half of the total amount of corporate stock authorized to be issued and if no sale of corporate stock shall have been held within six months preceding the issue of such notes then the total amount of such notes or renewals thereof, issued and outstanding, shall at no time exceed one-half the total amount of corporate stock authorized to be issued on the date which shall be six months after such last preceding sale.

The Corporate Stock Note Bill provides, in effect, a short-time instrument analagous to the railroad note. It is estimated that the city will save approximately \$1,000,000 annually in interest through the operation of this bill. The comptroller is now in a position to have a sale of corporate stock at any time rates appear most favorable, when the volume of bills then outstanding will be automatically funded. These bills have recently been sold on a basis of approximately three per cent, whereas former corporate stock issues of the

city are practically on a four per cent basis. By this temporary financing a saving of about one per cent was effected. This saving, of course, was possible only because of the city's unusually good credit and because money market conditions were exceptionally favorable. If rates were very high, however, the principle would be equally valuable, because a bond sale would be inexpedient.

There was also introduced in the legislature, in 1911, what is known as the "Foreign Sales Measure," the essential subject matter of which is as follows:

When in the opinion of the comptroller it shall appear desirable to have the whole or any part of an issue of corporate stock made payable in the currency of a country other than the United States, such corporate stock so to be sold shall be made payable in such currency, with certificates in such amounts, and sold in such manner as may be duly authorized by the commissioners of the sinking fund, provided, however, that in case such corporate stock payable in a foreign currency or currencies is not sold in the manner prescribed for the sale of corporate stock under the provisions of Section 182 of this Chapter (public bidding), the comptroller shall invite sealed, competitive tenders for the purchase of such corporate stock in such manner as the commissioners of the sinking fund shall prescribe; and he shall make award or awards to the highest bidder or bidders for such corporate stock with the full power to reject all bids. The proceeds of sales of such corporate stock shall be recorded in the books of the Finance Department in the terms of the currency of the United States, as well as in the terms of such foreign currency in which such corporate stock shall have been issued.

This legislation will permit the sale of corporate stock in European cities, and the bonds may be made payable both as to principal and interest in foreign currency. As yet there has been no test of this measure, no sale of corporate stock having been held for over a year. It is a question whether European money markets at the present time are as favorable to the absorption of American investment securities as home markets.

In connection with repaving requisitions the practice in the City of New York for many years has been to issue fifty-year bonds. As a matter of fact, the life of the average pavement is hardly longer than ten years. Manifestly, fifty-year corporate stock (bonds) should not be issued for this purpose, as on this basis the pavement would have to be renewed at least five times during the lifetime of the original issue, thus storing up for posterity a burden which should be borne by the present generation. Consequently, it has been determined to issue ten-year bonds for the purpose mentioned.

In view of the city's size and the vast amount of its repaving requirements, this corrective principle will be vital in curtailing the growth of the city debt.

All the measures to which reference has been made have a more or less direct bearing upon the policy of financing the several sinking funds of the City of New York. The corporate stock note gives a basis for financing between bond sales, is a logical sinking fund investment and relieves the surplus moneys of the sinking fund from investments in long-time issues of corporate stock. The correct sinking fund principle is, of course, to amortize through the purchase of old issues rather than to use such funds for the purchase of new issues. Someone has said, "There can be no real sinking fund without surplus." Investment in new issues eats up surplus. Ten-year repaving bonds, corporate stock notes and revenue bills make desirable short-time investments for sinking fund purposes; and as they are all constantly being repaid, the sinking funds are automatically gaining cash strength. While the sinking funds of the City of New York are very large and there will be no appreciable strain upon them for the next quarter of a century, nevertheless, it is manifestly more desirable that investments for sinking fund purposes shall be upon an absolutely sound basis and that, so far as may be practicable, the strict principle of amortization be developed.

The comptroller of the City of New York has organized the Commission of Standardization, which now acts under direction of the Board of Estimate and Apportionment. The work of this commission is developing a uniform system of supply purchase, distribution and control, under standard forms of contracts and specifications. System and business methods are replacing the chaos and wasteful practices which in the past were inevitable through the lack of uniformity in the methods of one hundred different purchasing agents, with the consequent differences in specifications and unit prices. Much constructive work has also been done in the Department of Finance in connection with its accounting methods, so that a strictly business system is being established. All this, in effect, means that there are being introduced in the various branches of municipal activity, so far as possible, the same methods, the same standards and the same requirements that are producing effective results in great private corporations.

In co-operation with a commission appointed by the mayor,

the comptroller has been accumulating data on what is called "New Sources of Revenue." During the last year a careful study has been made of more than fifty special topics. A new source of revenue has been defined as—first, a decreasing or complete stoppage of leaks in the expenditure of public moneys due to short-sighted and unscientific management; second, an increased income from a present source of revenue; and, third, a latent revenue as yet untapped by the city. Working on these principles, the revenues of all departments of the city, including the county offices within its territorial limits, have been examined in order to ascertain whether such sources of revenue were at their maximum capacity. Analyses have been made of the successes and failures of different methods of raising revenue in other cities of America, Europe, Canada and Australia.

Efficiency in municipal administration and financial reform is largely dependent upon hard, intelligent and constructive work, with the gradual establishment of the principles developed. The most serious difficulty in the way of attainment of the ideal in municipal management is the lack of continuity. The shifting attitude of the voter gives little promise of any change for the better in this respect. It is important, therefore, that the co-operating continuity of civic organizations be made as practical and vital as possible. Their support for this purpose may be regarded as in the nature of double taxation, yet no money devoted to philanthropy could be better applied than in developing efficiency in city government. The civil service should be developed so that there will be a continuing oversight of the clerk or official who is now merely launched upon the sea of service through the medium of a single examination. A system of efficiency records properly prepared and applied would soon produce a corps of civic workers placed with due regard to their ability. The result would be a startling reform in civic activities. While politics must be a continuing element in American life, every effort should be made to choose candidates of inherent ability for their respective positions.

ECONOMY AND EFFICIENCY IN THE DEPARTMENT OF
WATER SUPPLY, GAS AND ELECTRICITY,
NEW YORK CITY

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This article is written for the purpose of describing the character and scope of the work undertaken to promote economy and efficiency in the Department of Water Supply, Gas and Electricity of New York City.

The terms "economy" and "efficiency" in their application to the department in question involve two intimately related ideas: efficiency, meaning the attainment of a given result with the minimum expenditure of energy; and economy, as signifying the minimum expenditure of money consistent with the attainment of that result. The warranted degree of economy is a relative factor dependent upon the value of the result to be obtained. Good public service cannot be jeopardized by false or mistaken economy due to the disregard of all else but the effort to save money. The aim should be to attain the best public service at the least cost to the city.

The practical application of the principles of economy and efficiency necessitates the supervision of the various divisions of the department in order to ascertain: first, if work proposed or in progress is necessary for the effective operation of any function of the department; second, if work deemed necessary is accomplished under present conditions with efficiency; third, if a greater efficiency can be obtained by improved methods and the betterment of physical conditions; fourth, if such improvements will effect a greater economy in operation, consistent with efficient service. To allow of this supervision, and for the purpose of administrative study, summaries of detailed reports prepared in graphic form, when practicable, show the results of work accomplished throughout the department and the cost of operation in order that the principles of economy and

efficiency may be scientifically applied. Such information must present concisely facts similar to those available for the use of the executive head of a successful commercial enterprise, for no administrative head must be wholly dependent on verbal statements of subordinates.

The proper distribution of expenditures to determine accurate costs incurred in the operation of the various functional divisions of the department along lines similar to those used in good commercial practice, is the basis of securing the information required by administrative officials. To accomplish this result, a Division of Costs and Statistics collects and tabulates the facts and data pertaining to the various activities of the department on a unit cost basis. For instance, the efficiency of a given pumping station is determined by the duty of a million foot pounds per hundred pounds of coal and the economy in cost per million gallon feet of water pumped. It will therefore be seen that the problems arising in connection with the work of the department are largely those of administration which require knowledge of operating conditions resulting from efficient organization and significant statistical information.

It has been necessary to reclassify the expenditures of the department on a functional basis in order that cost data may be properly distributed. This involves a summary of facts pertaining to the operation of the department segregated under administration, operation and maintenance.

Monthly, quarterly and annual reports are compiled by abstracting the totals of the columns in an analytical expense ledger in which all the information indicated by the classification of expenditures is summarized. The reports show in detail the cost to the department, of each function, sub-function or division of a sub-function, if any. The reports also include comparative figures for a corresponding prior period, month, quarter or year, the accumulated figures to date, or both, as the case may be. Extra typewritten carbon copies of the reports are made, and the sections showing the detailed expenditures of each bureau and division are sent to the respective administrative heads. The sheet for pumping division, for example, on which appears the cost of operation and maintenance of pumping stations, is sent to the chief engineer and the division engineer in charge of pumping stations. A system for obtaining the cost and efficiency of each pumping station is also in use. This system applies to all

divisions of the department which have to do with operation and maintenance and allows of the following information being obtained:

- (1) The cost of each division of a sub-function, e. g., cost of each pumping station.
- (2) The cost of each job or unit cost, e. g., the cost of a repair job in a pumping station.
- (3) The itemized cost of each job.

All of the information necessary for the analysis of expenditures, including the costs and statistics records, is based upon and compiled from the expenditure vouchers and pay rolls, the stores control system, and the time and service records.

In addition to the reports already described, monthly statements are sent to the several administrative heads of the department. These statements contain the amount of expenditures as well as encumbrances on account of each appropriation or other fund authorized and the balances unencumbered.

The object of all the records which have been described is to secure the accurate costs of the department for the purpose of intelligent administration and of obtaining proper estimates for appropriations and other funds.

The department collects the water revenue of the city, and deposits it to the credit of the City Chamberlain, who acts as the treasurer, vouchers are submitted to the Department of Finance for audit and approval, after which they are sent to the City Chamberlain for payment. It is necessary, however, that the administrative officers of the department have the information as to the revenue side of the accounting as well as expenditures, and the following is therefore prepared:

Revenue Account or Annual Statement of Income and Expenditures

- (1) The Revenue of the Department.
- (2) The Expense of Operating the Department and maintaining its properties. This will include expenditures by others for the benefit of the Department, i. e.:
 - Interest and Sinking Fund Installments (Comptroller).
 - Rents—Sinking Fund Commission.
 - Legal—Corporation Counsel.
 - Printing and Stationery—(City Record).
- (3) The Net Revenue Account.

Finally the annual financial statement of the department shows its assets and liabilities.

The Department of Water Supply, Gas and Electricity represents an estimated investment by the City of New York of over \$300,000,000 and is one of the most important divisions of the municipal government.

It supplies the city with more than 500,000,000 gallons of water daily and bears the responsibility of maintaining a constant and abundant supply. It safeguards the lives of over 5,000,000 people by protecting the supply against contamination. It has jurisdiction over an area, including the watersheds, of more than 600 square miles, and also over the aqueducts and the numerous storage reservoirs. It operates the high pressure fire stations and maintains and supervises the extension of this service.

The entire street and park lighting of the city, the lighting, heating and power service of municipal buildings, and the testing of the gas supplied to consumers comes under the supervision of the department, together with the inspection of 10,000 illuminated signs and over 550 theaters. The expenditure incurred in lighting the 77,000 street lamps within the city limits amounts to \$5,000,000 annually.

As a revenue collecting function of the city the department is second in importance to the office of the Receiver of Taxes. The total revenue or charges for water consumed in the year 1911 amounted to \$14,420,000. This fact gives the department a singular position as compared with the other divisions of the city government. The substantial revenue of the department, considerably in excess of its expenditures, places it on the self-sustaining basis of a profitable commercial enterprise.

The importance and the responsibility of these public services entrusted to the department and the duty to the taxpayer call for administration along business lines, that is, with economy, and efficiency.

The department, through the efforts of its administrative heads, has accomplished many economies and has also attained a higher degree of efficiency in various branches of its work.

One of the most important features of efficiency is to promote the personal efficiency of the individual employee. This is accomplished by means of service records which show the degree of proficiency in

the performance of his duties, allows the acknowledgment of efficient service, discloses inefficiency, and places responsibility.

Inequality in clerical work with respect to compensation results in discontent and inefficiency on the part of the individual employees and, in consequence, positions are graded with respect to the character of work irrespective of incumbents.

Special effort has been made to create a feeling of co-operation among the individuals of the different branches of the department and to prevent the work from acquiring the reputation of being an investigation solely for the detection of inefficiency. The most effectual betterment of conditions is dependent upon the earnest co-operation of every employee of the department.

In the year 1910 the per capita consumption of water for New York City was placed at 127 gallons per day. Through the vigorous campaign against water waste resulting from the efforts of the department to conserve water during the protracted droughts of 1910 and 1911, the daily per capita consumption was reduced to 93½ gallons. This gives New York City a lower per capita consumption than any city in the country of over 400,000 population, with the exception of San Francisco. This important economy was accomplished by a house to house inspection for the purpose of discovering leaking fixtures and by the use of the pitometer to determine the presence of leaks in mains. Direct appeal was made to the individual consumers through means of a pamphlet, widely circulated by the department, illustrating leaks caused by carelessness, poor workmanship, and faulty material used in plumbing fixtures. The pamphlet emphasized the fact that a leaking faucet wastes annually from \$2.00 to \$6.00 worth of water, while water flowing through an opening the size of the eye of a needle $\frac{1}{32}$ in. in diameter and under a pressure of thirty-nine pounds will amount, on a meter rate basis, to \$11.68 annually. These examples showed the large amount of water wasted through small leaks where the general idea is that they are too insignificant to warrant attention. Considerable attention was also given to leaks resulting from bad condition of service pipes and house fixtures, owing to the effect of corrosion, damage to pipe by unequal settlement, badly wiped joints, and electrolysis.

The issuance of this pamphlet was the first attempt on the part of the city to educate the public in the cost of water and to solicit the co-operation of consumers to the necessity of checking waste.

Since the water waste detection work was started in the year 1910, leaks from which water was going to waste that would be worth, at meter rates, over \$3,000,000 have been stopped. It has cost the taxpayer only a little over \$75,000 to accomplish this result.

By the addition of one hour to the working day for the department, affecting over 700 employees, the total number of work days was increased over sixteen per cent, equivalent to thirty-five additional working days for each employee per annum, or a total of nearly 25,000 additional working days yearly.

The consolidation of the Bureau of Water Supply, under one head instead of under six independent heads, as formerly, resulted in a yearly reduction in salaries of about \$300,000, and in the elimination of proposed works which would have cost the city about \$1,800,000. The substitution of other work effected an annual economy in operating and maintenance charges of \$200,000.

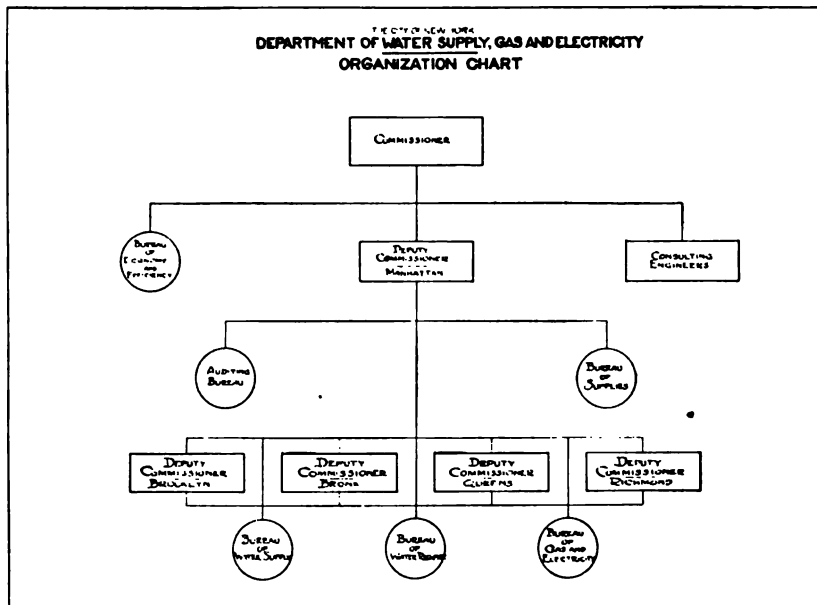
In the year 1909 the cost of coal consumed by the department amounted to \$613,806. The cost of coal in 1910 was \$491,292, showing a saving of \$122,514, over the cost for the previous year, a condition which resulted from more economical and efficient means of purchasing and handling coal. In addition, there was 2.5 per cent more water pumped in 1910 than during the previous year. Standard specifications and contracts for coal have been adopted. A complete system applying to the inspection, weighing, sampling, analysis, and delivery and payment and also as to consumption of coal was installed.

The reduction in the annual cost of street lighting enabled the department to appropriate this saving to light a number of new avenues.

Through a complete reorganization in the Bureau of Water Register, the installation of improved methods and procedures, and the attainment of an increased efficiency in the work of the bureau, the revenue of the city was increased from \$10,652,213.89 in 1909 to \$14,420,000 in the year 1911. By a careful investigation and study of the clerical methods employed by this bureau, work was redistributed equitably to secure the maximum obtainable from each individual with the result that twice as many accounts can now be handled in the meter reading division, notwithstanding the increase of work due to the more frequent reading of meters, which caused the work to be doubled. A new system of inspection has also been

installed which allows this work to be carefully checked and recorded while inspectors can be located at any time while on their rounds of inspection. This work is periodically tested and compared to see that the maximum personal efficiency is being obtained.

A substantial annual saving to the department is the result of the establishment of a Bureau of Supplies. This was accomplished by the more economical purchase of materials, the standardization of supplies, and the formulation of improved specifications, together with the more efficient methods due to the centralization of storing



and distributing supplies along lines comparable with the most improved methods practiced in large industrial enterprises.

The complete and improved system of filling out pay rolls by mechanical means reduced the time required to fill out one pay roll sheet from twenty-five minutes to twenty-five seconds.

The application of the principles of economy and efficiency to the operation of the department, some of which have been enumerated in the previous paragraphs, illustrates the great value of this character of work to the city. Sustained effort along these lines promises to

accomplish further improvements. The appreciation of this fact by Commissioner Henry S. Thompson caused him to establish a new division of the department, known as the Bureau of Economy and Efficiency, devoted wholly to this special character of work. The bureau is a separate branch of the department and its official head reports direct to the Commissioner. Its staff of employees consists of experts in accounting and engineering through whose efforts are made critical analyses of operating methods of the department.

The bureau will keep pace with advances in methods adopted by commercial organizations, with the idea of applying them to the operation of the department. A library, consisting of bulletins and pamphlets and reports published by the federal and municipal governments, is being collected. This gives access to any information collected by others which may be of value to the department.

The exact saving to the department to be obtained from the new bureau is a difficult matter to prophesy and cannot be calculated in dollars and cents. It is generally conceded that the business operated on scientific principles of practical utility is the one that attains the greatest commercial success, and the essentials of economy and efficiency affecting this result are applicable to municipal work and especially to this department.

EFFICIENCY IN WATER REVENUE COLLECTION

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The attainment of efficiency in any undertaking is, to a great extent, dependent upon a careful study of local conditions and the assimilation of a vast amount of detail which has to be co-ordinated along certain definite functional lines. This is especially true when applied to the water department of a municipality; and, when it is further realized that furnishing a supply of water provides by far the largest source of revenue in most cities, the application of these fundamental principles deserves more attention than is ordinarily given to this important matter.

As a factor of efficiency in water revenue collection, inspection undoubtedly takes first place. No system of accounting control can possibly offset inspection work inefficiently performed. The first essential, therefore, would be to obtain capable and conscientious inspectors. The next step would be to divide the city into districts, each district being just large enough for one man to cover. The inspectors should be shifted from district to district as often as possible, especially in the larger cities where it is more difficult to keep in close touch with the men in the field and their work. Protracted service in the same district permits an inspector to get too well acquainted with the consumers with whom he may come in contact. It would be advisable to have a corps of supervisors in the field to oversee the work of the inspectors.

Requests for inspection would be made on the inspection division in card form, the card later forming a permanent record of premises inspected. The information on these cards would be spread upon the inspectors' report blanks, and would contain data covering the various purposes of inspection, for instance, complete examinations, building purposes, taps and services, demolitions, metered premises or unmetered premises. These reports would be of various colors, according to the nature of the inspection required, and would contain a series of questions to be answered by the in-

spector. A record should be kept in each division of the requests made for inspections, and a form of receipt retained by the inspection division upon rendering the requested reports to the originating division.

A route sheet, filled in by each inspector, showing the order in which he proposes to examine the various premises, would be left with the chief inspector before the former leaves headquarters each morning. The inspectors would be required to report their work on a daily summary sheet, showing the time of arrival at the first and of departure from the last premises visited during the day, as well as the street addresses and the order of inspection. These summary sheets would give a synopsis of work performed, including meter readings, examinations, inspections, special reports, et cetera, and would also show work assigned to an inspector which he failed to complete.

A supply of notices covering the more prevalent forms of violations and irregularities would be furnished to the inspector, who would serve them on owners and occupants as occasion demanded. They would be used in cases of the discovery of meters not accessible or in need of repair, leak and waste, hose violations and use of water without permission. It would be advisable also to provide special forms of meter dial charts to record the index where there is any doubt as to the registration. The inspector would likewise be supplied with special report blanks for use in connection with irregularities not covered by printed notices for specific violations. All notices should be printed on a standard size of form which would fit into a metal binder. The inspectors should submit a daily list of irregularities discovered for the correction of which notices had been served. Such procedure affords a complete system of control by the central office if appropriate follow-up notices are issued from these lists.

An efficiency record would be compiled from the synopsis of each inspector's work as shown on his daily summary sheet. The monthly totals of these record sheets would make a valuable comparative report of each inspector's work.

The inspection and accounting records are so interdependent that, without a proper accounting system, the inspection work, no matter how efficiently performed, must necessarily be greatly impaired. The information obtained in the field by the inspectors

must not only be accurately recorded but must also be controlled by the accounting records.

Before any entry is made in a consumer's ledger it should be placed in control. This control would be obtained by scheduling day by day the records of original entry, viz., the meter reading sheets, the reports on collections, the inspectors' reports on new or additional supplies, and the adjustments of rates. For this purpose various kinds of schedules would be used, including schedules of charges for unmetered services, of meter readings, of collections and of adjustments. The totals of the daily schedules would be recapitulated on summary sheets, the totals of which in turn would be entered in the respective revenue and adjustment journals or on a monthly recapitulation of collections. The analytical totals of these latter records would be posted monthly, through the general journal, to the appropriate accounts in the general ledger. The schedules would be compiled by listing all items so as to obtain the total debits or credits to be posted to each ledger. The ledger clerks would post individual items to consumers' ledger accounts, while the control clerk would enter the totals only on the control sheets of the respective ledgers.

A control card, on which the particulars of each unmetered supply and alterations thereto may be originally recorded, provides an effective check if the bills are made out from such cards instead of from the consumers' ledgers. The ledgers should be balanced monthly and agreed with the respective control sheets. A summary of the control sheets would be made each month so that a grand total of the consumers' ledger balances could be compared and agreed with the balances shown on the respective accounts in the general ledger.

From the time the main is tapped, inspection should be prompt and painstaking. By maintaining proper records covering the erection of new buildings, and the alterations to or demolition of old buildings, much waste of water will be prevented and revenue obtained which might be otherwise overlooked. Where the charge for water supplied for building purposes is based on the estimated quantity of materials to be used, such estimates should be carefully checked with the plans by a qualified person. An affidavit by the builder, owner or architect is not usually sufficient. Co-operation with the building department, where the detailed plans for new and

altered buildings are examined and filed, would appear to give the most satisfactory results. The building in any event should be surveyed on completion, as deviations from the original plans are frequent and a loss of revenue is likely to occur unless attention is paid to such matters.

Unquestionably the control over the collection of water revenue will be most efficient when the charge for water consumed can be based on the registration of the water meter. The use of a meter conserves the supply by controlling waste, and constitutes the only equitable basis of charge to the consumer. Many cities, however, do not own the meters and are consequently working under difficulties. The location of the meter is also of importance and has a very direct bearing upon efficiency in meter reading. The sealing of meters, too, is a matter requiring competent supervision if proper control over revenues is to be obtained.

All meters should be read and billed regularly and promptly, the larger meters receiving more frequent attention than the smaller ones. Careful study should be made of each inspector's work to insure the maximum number of readings. Loose leaf meter reading sheets in metal binders afford greater facilities in reading than any other method because of the ease with which they can be distributed or rearranged to meet altered conditions. It may be found expedient to code the various defects that may exist in a meter and thus save the writing of much detailed information. Meters out of order demand prompt repair if a loss of revenue due to comprising an "average" bill for a lengthy period, is to be avoided.

Rules and regulations covering the setting, disconnecting and repairing of meters should be established and strictly enforced. Such work should be controlled by the issue of permits to licensed plumbers, if not performed by the water department itself.

Accurate meter reading, while absolutely necessary, is not in itself the most vital feature connected with metered supplies. This was very clearly disclosed by tests conducted in New York City within the past two years when, of 20,000 meters examined, some were found to be registering only 15 per cent., and the average only about 75 per cent. of the water passing through them. The consequent loss of revenue assumes alarming proportions when one considers that New York City, where only one-fifth of the supplies are metered, collects approximately \$6,500,000 annually in meter rates.

It would therefore seem advisable that all meters should be tested at a properly equipped meter testing station, operated by the department. The insertion of test tees provides an easy method of making some of these tests on the premises without removing the meter. All meters require attention at intervals, and testing will usually be found a fruitful source of revenue far in excess of the cost of such work.

Existing laws and peculiar local conditions prevent many municipalities from adopting universal metering or from even acquiring physical possession of the meters. Various methods of charging have been established to meet these conditions, such as the frontage rate, assessment rate, rates based on fixtures, et cetera, but all are open to criticism. The disregard of personal responsibility, which the unlimited supply for a fixed charge fosters in the consumer, makes efficient inspection the more imperative.

By co-operation with the building department, a daily or weekly list of new and altered buildings may be obtained. The checking of these lists and obtaining accurate reports thereon in detail is a vital necessity. This, however, is only the initial step and must be followed up continuously by other methods. A system of certified monthly reports from plumbers, showing additional supplies or fixtures installed by them, should be inaugurated and carefully checked to the records and the charge to the consumer adjusted accordingly. All plumbers should be licensed.

Such work should be still further supplemented by a house-to-house examination of all premises, as frequently as may be deemed expedient, with the object of obtaining first-hand information as to the present status of each supply, so that, if necessary, the charge may be corrected and the department get full compensation for the service it renders.

By no means the least important phase of the house-to-house examination is the question of leak and waste of water, which should receive particular attention at such time. Some cities are collecting thousands of dollars annually by way of fines for leaky fixtures which the consumers neglect to repair promptly. But the creation of an additional source of revenue is not the only beneficial result. New York City saved 25,000,000 gallons of water daily last summer as a result of its leak and waste campaign, thus conserving the supply and at the same time reducing pumping costs.

The pitometer is a valuable adjunct to waste detection, and frequently, through its operation, an investigation is prompted which discloses supplies for which no revenue is being obtained.

In a community where water is supplied to shipping it is usually found necessary to establish hydrants on public docks for this purpose. This, too, is a source of revenue which needs careful inspection. It is inexpedient to keep constant watch over these hydrants and useless to meter unless a record can be kept of the water taken by each boat. Probably, therefore, the most economical method of controlling such revenue is by means of permits, issued semi-annually, the charges therefor being based on a sliding scale commensurate with the capacity of boilers and the purposes for which the craft is operated. The shipping hydrants must be effectively patrolled in order that those not entitled to take water may be prevented from doing so until a permit is obtained. Where the water front is extensive, the use of a patrol boat to supplement the work of inspectors on shore has been found advantageous. The imposition of a heavy fine for taking water without authority will quickly force the shipping interests to realize that an effective watch is being kept over their movements. The co-operation of outside agencies, such as the police and the state or federal licensing authorities, is of great assistance in strengthening such control.

It would be necessary to compile card records of all boats frequenting the port and to obtain an annual affidavit from the owners of all boats under their control, giving reasons, if any, why application is not made for permits for all their craft. The inspectors should report all boats found taking water, and the clerks would enter this information on the card record. If no permit has been issued or permit has lapsed, prompt action should be taken.

In regard to the actual collection of rates the coupon form of bill will doubtless be found most satisfactory. It is desirable that all bills tendered for payment should be listed on analytical schedules of collections before being handled by the cashier. This would provide a medium of check upon the daily receipts. A further check would be obtained by listing the coupons in the preparation of control schedules.

Notices in the form of reminders should be mailed to consumers whose accounts are in arrear. If such warnings are disregarded, penalties for non-payment should be imposed. The cashier

should be required to make a daily report on collections, distinguishing between the different classes of receipts. Such daily reports should be supplemented by a monthly statement showing comparative and accumulated figures.

A description should be written covering the detailed procedure employed in water revenue collection. A compilation of this character will not only afford the individual clerk or inspector information relative to his own work, but will make it possible for him to familiarize himself with the practical working of the complete scheme. This in itself should do much to improve the efficiency of the personnel. An understanding of the whole situation will make each man more valuable in his present capacity and more satisfactorily equipped for increased responsibility.

During the two years ending December 31, 1911, New York City increased its revenue from water approximately four and a half million dollars over and above the best previous showings in the history of the department. The greater part of this increase was due to the installation of the new system of inspection, improved accounting methods, and reorganization of the entire revenue collecting bureau along the lines herein indicated.

In conclusion, efficiency in water revenue collection can be obtained most readily when the following favorable conditions exist: (a) When all supplies are metered and the meters are owned by the municipality. (b) When the meters are periodically tested and overhauled. (c) When pitometer and similar waste detection work is prosecuted within reasonable limits. (d) When a well-planned system of inspection is enforced by competent supervision and rigid discipline. (e) When appropriate records based on inspectors' field reports are under a proper system of control that effectually prevents dishonesty or fraud. (f) When charges are promptly and regularly billed. (g) When all forms are standardized and adequate filing facilities are provided. (h) When the responsibilities of the staff are clearly outlined on an organization chart and their duties definitely fixed by a written procedure established for their guidance. (i) When the administrative head can promote and maintain that co-operation between the functional divisions of the bureau which is so essential to a successful consummation of efficiency work.

SECURING EFFICIENCY THROUGH A STANDARD TESTING LABORATORY

BY OTTO H. KLEIN,

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The establishment of a municipal laboratory for the purpose of testing materials used or intended to be used in the construction of public improvements, and also supplies furnished to public institutions, is by no means an undertaking of recent date. Such laboratories have been in existence for many years, especially in the capital cities of Europe. In America, however, the importance of a municipal testing laboratory has only been given its deserved recognition for a decade, more or less. It developed principally from the desire of the paving engineer to keep a check on the various materials used in the construction of pavements in his city. And these laboratories, as a rule, were poorly equipped and were hardly able to control the street work in course of construction, to say nothing of conducting research work.

At the time of the consolidation of the greater City of New York in 1898, only two small city-owned laboratories, devoted to the examination of materials of construction, existed, and these were only designed to conduct examinations of cements and asphalts. Only two boroughs of the greater City of New York at the present time have small laboratories which are able to undertake the physical and chemical examination of the paving materials used in the construction of their streets. The officials of the remaining three boroughs have gradually discovered the necessity of testing their cements and paving blocks, and the consequence was the establishment of small testing stations in their boroughs, principally confined to physical tests of cements, while chemical analyses of paving materials had to be entrusted to private analytical chemists not in the regular employ of the City of New York.

As increasing improvements—the big bridge, water works, subways, docks, ferry service, etc.—developed, the examination of materials of construction became most imperative. Yet it remained the policy of the officials of the City of New York to confine the scien-

tific examination of materials required for these vast enterprises to quite narrow limits, and private laboratories were almost invariably entrusted with this important work.

With the establishment, in 1907, of the Water Board to build the new Catskill Aqueduct, a testing laboratory was inaugurated for the purpose of testing the materials used in its construction.

The Department of Water Supply, Gas and Electricity had a laboratory for water and gas analysis, and also for the examination of other materials used in the various branches of that department, including gas examinations by many photometric stations distributed over the city, and necessarily located where the gas supply from the various sources could be most advantageously obtained.

The laboratory of the Board of Health conducted the examination of water and all other examinations which are strictly within its jurisdiction.

It would lead too far to narrate all the details of the workings of, and results accomplished by, the two last-named laboratories, but it may be of interest to know that in total, there are some twenty-six small laboratories owned by the City of New York.

Excepting such subsidiary laboratories as mentioned above, it is obvious that much analytical work performed was being duplicated and favorable or adverse results were not available to the city at large, not even to those officials who could apply such knowledge to the benefit of the taxpayer.

For the purchase of supplies for the various departments and public institutions alone the City of New York expends approximately twenty million dollars per annum. These materials are bought either under contract or in the open market, mostly under rather vague and inadequate specifications, leaving to a great extent their acceptance or rejection to the judgment of an individual.

It was recognized that these specifications should undergo a thorough revision and modification. To this end, a Committee of Standardization, consisting of the mayor, the comptroller and the president of the Board of Aldermen was elected by the Board of Estimate and Apportionment. This committee in turn appointed a commission on standardization, for the purpose above stated. The writer was selected as one of the members of this commission.

In the very initial steps taken by the commission on standardization to modernize the specifications for supplies, and especially

to incorporate reasonable physical and chemical requirements by which the quality and components of these materials could be described and deliveries controlled, the co-operation and advice of a city-owned chemical and physical laboratory was found to be an unavoidable necessity. This led to the creation of the Standard Testing Laboratory by the Board of Estimate and Apportionment, in the spring of 1911, for the following purposes:

1. The testing of samples of all kinds of general supplies purchased by the City of New York for the use of the various departments, and for the purpose of securing a proper audit of all claims therefor.

2. The testing of all materials used in construction work and in the laying and resurfacing of pavements, roadways and sidewalks in the five boroughs of the greater city.

3. The carrying on, concurrently with the routine of general testing and along specific lines of the city's needs, of such research work as will give the various city departments the benefit of the best available scientific knowledge, worked out practically along definite lines suggested by the routine of general testing, as indicated herein.

4. The simplification of the work of auditing and inspecting claims for supplies and materials furnished the city under properly drawn specifications, prepared by the Commission on Standardization and promulgated by the Board of Estimate and Apportionment, for use by all city departments. Co-operation in preparing specifications and in auditing and inspecting claims for work done and supplies furnished thereunder, so that the city shall, by the faithful carrying out of all specifications, receive full value for money expended.

5. The gradual evolution of uniform methods and standard tests of all supplies and materials purchased for city purposes, and the promulgation to all city departments, by means of monthly bulletins, or otherwise, of the results of such tests, and the research work based thereon. The object of the dissemination of this information would be to enable city departments interested to know fully and accurately the results in efficiency and economy of the general practices prevailing and the experiments made by every other department. This would prevent mistakes made by one depart-

ment from being repeated in others, as at present, and make methods by which valuable results are obtained in one department available to all others. Under the present system each department is permitted to work independently, in comparative ignorance of what is being done by other departments.

6. The maintenance of records, showing the relative life and relative good, or bad, qualities of all materials used by city departments in construction work, especially of materials used in the laying of pavements and sidewalks, and in the making and surfacing of streets and roadways with macadam and road oils, wood blocks, asphalt, granite sets or other materials. These records to be so kept as to inform departments in charge of such work, not only as to the best and most suitable materials to be used, but to demonstrate, from actual tests of such roadways and sidewalks during a course of years, the reasons for their durability or lack of durability; information of this character to be disseminated from time to time in monthly bulletins, or otherwise, for the information of all city departments.

7. The furnishing to the corporation counsel's office of such technical data, taken from the results of tests and from the official records of such tests, as might be required from time to time, to protect the city's interests in legal actions for damages involving materials and supplies furnished to, and work done for, any city department. At the present time large amounts of money are annually expended for expert services and testimony in such actions for damages. It is submitted that such services and testimony could be furnished by the staff and official records of a standard testing laboratory, in a manner and with a completeness which would more efficiently and far more economically protect the city's interests than they are at present protected in all such legal actions.

Since its establishment the Standard Testing Laboratory is in temporary quarters in a loft building, corner West Broadway and Franklin Street, occupying the very limited space of only three thousand square feet. Its personnel is made up, at the present time, of a director, five chemists, seven coal samplers, also acting as laboratory helpers and cleaners, one clerk and one stenographer. Of the above staff, two chemists and four coal samplers have been added since January 1, 1912.

The new quarters of the Standard Testing Laboratory of the

City of New York will be located in the New Municipal Building, corner of Park Row and Centre Street, now in course of construction, and the new laboratories, when completed, promise to be the most complete and up-to-date institution of its kind in the United States, covering floor area of approximately 35,000 square feet. The planning and designing of this equipment is being done by the writer, in conjunction with the architects of the New Municipal Building, under the supervision of the Commissioner of Bridges, who has charge of its construction.

From June 19 until January 1, 1912, the Standard Testing Laboratory completed and reported upon 580 chemical and physical examinations of over seventy different kinds of materials for eighteen different departments of the city government, of which 418 samples were acceptable, and 162 did not meet the requirements.

Since January 1, 1912, four departments have been added, and, judging from the variety of materials submitted, it may be inferred that the variety of materials submitted for analyses will exceed two hundred during the present year, still leaving a vast amount of additional samples of materials of construction and supplies to be taken up as soon as the new quarters can be utilized and the necessary staff procured.

It is not the object of the writer to give any detailed statement as to results accomplished so far by our relatively small establishment. However, it may be of more interest to dwell upon the subject of organization and efficiency secured through the united efforts of the staff of the Standard Testing Laboratory, as it exists at the present time, without making reference to future developments.

Efficiency in a laboratory is produced by the capacity of the staff, application of proper methods and the adoption of modern appliances.

The selection of an efficient staff, although sometimes hampered by civil service regulations, should be considered the criterion in securing efficiency in a laboratory.

It is unquestionably preferable to employ chemists who are graduates in chemistry of recognized institutes and universities, and who have had a few years' experience in both analytical and industrial chemistry. Teaching in the numerous universities and schools of technology, in strict adherence to the established methods and theories of the individual instructors, tends to impress upon the

fancy of a student, and is apt to create in him a liking for one or the other branches of chemistry or its allied sciences, and as a rule he is apt to carry this inclination through all his professional career. This tendency leads to specialization in a line which the young man is more or less fond of and competent in, and it is very important, in the estimation of the writer, to concentrate the activity of such a man to this very sphere of specialty, because the field of chemistry is so large that it would be folly to expect any person to be proficient in or control the immense stretch of that science.

As a consequence, it is advisable, as far as permissible, to accumulate talent from as many schools of recognized standing as possible.

The clerical force in the Standard Testing Laboratory takes care of the commercial end, keeps all accounts, attends to all pay rolls, orders, time and other records, files and correspondence, entries and disposition of samples submitted for tests.

The selection of a competent stenographer with good schooling is quite important, as most of the correspondence is of a technical and scientific nature, and delay and repetition of work is caused if the stenographer has to consult the dictionary too frequently.

In the labor class of the Standard Testing Laboratory, are the coal samplers, under the immediate charge of a head coal sampler. They are thoroughly trained to take all the coal samples for testing, according to established rules. When not actively engaged in obtaining samples of coal, or immediately after their return to the laboratory, they are required to prepare the coal samples for analysis, clean glass apparatus and other laboratory utensils. They are also instructed to make minor physical tests such as flash point determinations, how to set up and take down distilling and extracting apparatus, and to perform many other duties which facilitate the work of the chemists.

Technical advice to the Commission on Standardization of standard specifications for supplies forms an important duty of the Standard Testing Laboratory. In order to obtain supplies of good quality in the open market at a fair value, and also to provide free competition, the specifications must be framed in such a way as to admit any commercial article of good quality with the exclusion of adulterants. It is often the case that the manufacturer or dealer is scared off by specifications which contain the composition require-

ments of the materials as determined by chemical analysis, and of which the ordinary layman has little or no knowledge. The necessity of having such requirements is, however, obvious, and the method adopted by the Standard Testing Laboratory in that respect, and hereinafter described, appears to have the approval of the honest contractor. For instance, in the preparation of specifications for olive oil, eight different samples of well-known brands of this material were obtained directly from the various importers or dealers. All of these samples were analyzed at the Standard Testing Laboratory and found to be pure commercial olive oil. The results of the analyses were tabulated together with the various trade marks of the oils, and the specifications so arranged as to admit all of these oils, which, as stated above, were all found to be unadulterated. When the importer or dealer was shown the analysis of his own oil, together with those of his competitors, and convinced himself that the specifications therefor admitted all of the eight brands, he readily agreed to submit a bid. Had this method not been introduced, he would never have made a bid under the specifications, and the city would be forced to pay a higher rate. Wherever possible, this scheme will be carried through in the future preparations of all specifications for supplies.

In order to keep the Finance Department posted as to the analytical results obtained by the Standard Testing Laboratory, a copy of each report is submitted to the inspection division of the finance department, which, upon receipt of an adverse report, takes immediate steps to stop payment. The head of the department from which the material analyzed emanated, as well as the Commission on Standardization, and the commissioner of accounts, who has temporary charge of the Standard Testing Laboratory, receives a copy of each report.

Owing to lack of facilities, a monthly bulletin cannot be published before the staff of the Standard Testing Laboratory is sufficiently increased. The benefit derived from the publication of laboratory results obtained will certainly be appreciated, not only by city officials, but by the public at large. The composition of commodities used in most households, which are sold to the public with enormous profits to the unscrupulous manufacturer, should be made known, and the public should be warned. A material, for instance, submitted a few weeks ago to the Standard Testing Labora-



tory by the inspection division of the finance department, and used in one of the city departments, for a dust preventive in sweeping floors and carpets, proved, upon analysis, to be composed of sand, sawdust, a small amount of calcium chloride, and a trace of naphthalene. This material is sold at ten cents a pound, while it can be produced in hundred pound lots for less than thirty-five cents.

Other methods producing efficiency in the Standard Testing Laboratory are the standardization of methods of taking samples for tests, such as coal, soap, paint, etc., a system of records of all kinds, standard forms for reports and notifications, and a filing system for reports. Standardization of the methods of analysis is another factor which produces efficiency in the Standard Testing Laboratory.

The Director is in continual touch with the chemists and every method of analysis to be employed is thoroughly discussed, and, when once established, deviations therefrom are only permissible with his knowledge and consent.

Just as important as the standardization of methods, to produce efficiency in the Standard Testing Laboratory, is the installation of the most up-to-date appliances and labor-saving devices.

The latest form of electrically heated and controlled oven for drying, etc., has been installed. The thermostat of this oven keeps the temperature constant to within a half degree. By means of this piece of apparatus, evaporations and drying operations, which formerly took from two to three days' time, can be made over night.

Advantage has also been taken of the fine control of temperatures obtainable by means of electricity in the installation of a water thermostat whose temperature is electrically controlled. This type of thermostat, a recent invention, will keep the temperature of the water contained in it constant to one two-hundredth of a degree. The apparatus is invaluable in the taking of specific gravities of liquids, a frequent and important determination.

Another labor and time-saving device is a large electrically-driven centrifuge, with a variable speed up to 2,500 R. P. M., regulated by a speed-regulating rheostat. The head of this machine has receptacles to hold anything from a test tube to a 500 cc. bottle, including separatory funnels. It is also provided with a steam jacket and a revolution counter. The advantages of a motor-driven large centrifuge are so well known that an enumeration of the frequent



instances of application appears superfluous. In order to save labor and time in the process of obtaining representative samples of coal from a cargo, a power-driven coal crusher, with a capacity of six tons per hour, mounted on a motor truck, has been added to the equipment of the Standard Testing Laboratory. Other modern, motor-driven, crushing, grinding and sifting machinery installed at the laboratory, added considerably to its efficiency. A vacuum drying apparatus is employed in the preparation of coal samples for analysis. A complete set of standard apparatus for the physical, microscopical and chemical examination of all classes of paper has also been installed, and is being constantly used. All the thermometers used are either certified instruments or they are calibrated and corrected at the laboratory with a standard normal thermometer. The same rule applies to viscosimeters and other instruments of precision. Titration with normal solutions, can be performed independently of sunlight, owing to the fact that the titration is done over milk plates set in flush with the top of the titration table, and illuminated from below by tungsten lamps. Much time is wasted if the chemist or physicist uses the ordinary arithmetical methods. Logarithms, ordinary and chemical slide rules, and calculating machines have superseded plain arithmetic at the Standard Testing Laboratory. It would be too lengthy to mention all the other automatic and labor-saving devices used in connection with performing extractions, evaporations, etc., which are mostly done over night.

Only few laboratories in this country visited by the writer offer the analyst any devices of safety or provide for proper ventilation and personal comfort. The efficiency of a laboratory can be increased by proper up-to-date ventilation and the installation of safety devices such as showers properly located, and asbestos capes in case a man's clothing catches fire, etc. There is ample provision made in the plans for the new Standard Testing Laboratory, and owing to superior arrangements throughout, it is hardly possible to predict how much more this new institution will excel the old one in "efficiency."

In summarizing the various duties to be performed by a standard testing laboratory to secure efficiency, the following results are to be achieved:

Preparing efficient specifications.

Assisting in efficient inspection of goods delivered.

Ascertaining the most efficient materials for use in construction or supplies for consumption.

Observing and experimenting by research or otherwise, the serviceability of materials; as for example: oils, asphalts, paints, etc.

Collating, filing and having available for reference precise information regarding the physical and chemical characteristics of materials and supplies, with a view to determining the most suitable articles of each kind for the purpose required.

Arming the city with expert testimony and expert information to defend the various suits brought by disgruntled contractors in the way of construction work or general supplies.

THE PROBLEM OF SECURING EFFICIENCY IN MUNICIPAL LABOR

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With the present trend of public opinion strongly in favor of economic improvement in municipal as well as in private affairs, it is not surprising to note the current popularity of the expression "efficiency." Except to the few who have made a study of the subject, the extent of municipal inefficiency is almost unbelievable. Lacking the measure of efficiency in private enterprise, there can be no conception of the actual inefficiency of public service.

The average person is familiar with but few of the innumerable forms of municipal inefficiency. The public frequently encounters evidence of inadequate service in the way of filthy streets, disintegrated pavements and obstructed sewers. Less frequently may be observed extravagant performance as evidenced by the snail-like action, or total inaction of individuals or large gangs engaged in sweeping streets, repairing pavements or cleaning sewers and catch-basins. These familiar instances represent different manifestations of only one form of the evil, namely, inefficiency in the control of work ordinarily performed by municipal day labor.

Within the last five years the writer has had occasion to investigate for the Commissioners of Accounts in several of the boroughs of New York City, and for the Merriam Commission in Chicago, certain aspects of the efficiency of municipal labor. These investigations contemplated only a relative determination of efficiency in conclusive form. The procedure was extremely simple in theory and consisted in arranging for the accurate measurement of self-demonstrated inefficiency. First a series of secret observations of the labor forces was conducted. Later a duplicate series of observations, covering the same forces, was made openly. Careful records were kept in both cases. Performance under the first series obviously represents normal efficiency, whereas the critical inspection of the second series might be expected to develop that degree of efficiency

easily possible of attainment. Thus by comparison it was ascertained that these municipalities normally suffered a loss of efficiency in the forces examined varying from 40 per cent to 70 per cent. This, of course, represented virtually nothing except wasted time. While these investigations covered only a relatively small portion of the total labor employed in all departments of either city, it may be stated with the utmost assurance that the average efficiency of labor in any large municipality will not at the present time exceed 50 per cent.

The significance of this statement will be more apparent when the above percentage is applied to total expenditures for labor. For instance, the annual labor payroll of New York City approximates \$17,000,000. A loss in efficiency of fifty per cent means, therefore, a yearly waste of \$8,500,000.

In the business world success is frequently measured by the ability to learn and adopt the more effective methods of competitors. It is commonly asserted that per diem work conducted by a municipality is less economical than similar operations of its competitor, the private contractor. There is, however, no insuperable obstacle to prevent reduction of the disparity in cost to a negligible quantity, although perhaps not immediately. It should then be advantageous to compare the conditions which affect the efficiency of both contractor and municipality and apply the knowledge thus gained to municipal operations.

In the majority of the larger cities the work upon which day labor is employed includes a wide variety of functions. These functions, segregated according to a more or less natural classification, are usually exercised by separate departments or bureaus of the municipal government. As it appears in any such organization inefficiency may be divided into two general classes. First, inefficiency due to circumstances over which the administrative head of a department or bureau has no control, and, second, inefficiency due solely to his action or inaction.

Under the first class, the principal items are inefficiency due to

- (1) Procedure required by civil service laws and regulations.
- (2) Procedure required by fiscal authorities.
- (3) Conditions imposed by other legislation or regulation, either state or local.
- (4) Influence exerted by political interests.

In discussing the first of these items, it should not be inferred that a criticism of civil service principles is intended. It is rather that the application of those principles as normally made has become a serious handicap to efficiency. Through well intended efforts to prevent the appointment of undesirable employees and the removal of competent employees as practiced by the "spoils system" of partisan politics, proper consideration has not been given to the more important question of securing the appointment of desirable employees and expediting the removal of incompetent ones. The practical results of applied civil service are disheartening in the extreme to a municipal official anxious to secure efficiency.

The average competency of municipal labor selected by civil service methods is considerably lower than that employed by private interests. This is more noticeable in the class known as skilled labor. Here while the wages in public and private service are quite uniform, the competitive examination together with the accompanying uncertainty of immediate employment acts as a strong deterrent to those whose competency and consequent acceptability may be quickly determined by trial service in a private concern. Moreover, the so-called "Preferred Lists" of the civil service seriously affect the efficiency of municipal work. For the enlightenment of the uninitiated it may be explained that the preferred list is an institution designed to provide for preferential re-employment of individuals who have been laid off through reduction in force. Such reduction is naturally made by the dismissal of the least competent employees. Again, owing to the unpleasant and sometimes extremely difficult task of removing incompetent and undesirable employees on charges, it is not uncommon to find the superior official shirking his plain duty by allowing the names of such employees to be placed on the preferred list. Subsequent reappointment then becomes a certainty.

The titles of civil service positions constitute a further barrier to efficiency, since no employee may be legally utilized to perform duties other than those specified by his title. The significance of this factor cannot be appreciated without a full knowledge of the existing nomenclature of municipal labor. The absurdity of this provision from a practical point of view is self-evident. It results from an attempt to correct the abuse of favoritism in the assignment of duties. The effect produced is that of the application of a

remedy to a symptom of disease rather than the eradication of the fundamental cause of its existence.

Regulations governing the employment of veteran soldiers and firemen are another stumbling block. The physical efficiency of a man who, to qualify as a civil war veteran, must be at least 60 years old, cannot be great, yet under the law it is obligatory to appoint him in preference to other eligibles, and it is extremely difficult, if not impossible, to secure his removal on the ground of physical or mental incompetency. The effect of his incompetence on the efficiency of his associates who receive the same wages is so serious that it would be far better to retire him on a pension designated as such.

The second obstacle to efficiency to be considered is the procedure required by fiscal authorities. Up to the present time, to all intents and purposes, economy has been considered synonymous with efficiency in municipal affairs. Conservation of funds has been the only measure, if any, that has been applied in judging efficiency. Expenditures have been practically uncontrolled except by the limit of departmental appropriations. This has naturally resulted in impairing the adequacy of available funds by abuse of expenditure privilege. To improve these conditions there has been instituted within the last few years in a number of cities, notably, New York and Chicago, a form of financial control known as the segregated budget. Briefly, the segregated budget provides for the purchase of labor, material and equipment by detailed appropriation of funds for definitely specified purposes. Every such appropriation is supplemented by a supporting schedule fixing the amount of each item of contemplated expenditure. No appropriation may be exceeded and no change in contemplated expenditure may be made without the consideration and approval of the fiscal authorities who originally established the amounts. The tendency of the segregated budget is to centralize, unduly, in fiscal authorities, the control of administrative detail greatly to the detriment of the efficient performance of work.

As applied to labor forces, this form of control not only arbitrarily fixes the number of incumbents and the rate of per diem wages for each grade of service, but makes impossible an increase in the number regularly employed or a modification of rates for the class or for the individual employee without the censorship of the highest city officials. As will be seen, this allows for no exercise of discre-

tion by the administrative head of a department or bureau, either in rewarding efficiency or penalizing inefficiency.

Like many other efforts to apply corrective measures to existing abuses of public service, the segregated budget is an attempt to ameliorate the evil by placing severe restrictive conditions upon the manner in which public moneys may be expended. That the fallacy of the theory has not become widely evident is due to the fact that those responsible for its introduction are primarily concerned with the financial side of municipal operations, and fail, as do most of the public, to comprehend that what is needed is control over results secured by expenditure of public moneys, which involves a consideration of work values.

The third obstacle to efficiency is to be found in special legislation. The municipality generally pays from 20 per cent to 50 per cent more for common labor than does the contractor. The hours of daily service are also shorter. The responsibility for this condition lies with our legislative bodies, either state or local, whose enactments have undoubtedly been inspired by considerations of political expediency. Any class rate of wages, either high or low, fixed by statute or resolution, without reference to ability or performance, is bound to foster inefficiency.

In the average municipality there is a strong tendency to segregate work strictly along functional lines, and assign a separate jurisdiction for each. This is frequently governed by charter provisions. Up to a certain point segregation may be desirable, but beyond that point it becomes unwise. For example, it will generally be found that, in the same territory, repairs to highways, cleaning of highways, repairs and cleaning of the sewer system and maintenance of the water supply system are each under the jurisdiction of a separate department or bureau. In each of these four functions there are well defined activities that require an entirely different procedure. But note also that in each of these same functions are included other activities which dovetail into one or more of the other functions. Here there is bound to be lack of co-operation, and consequent friction in the performance of work, where the jurisdiction is divided. To illustrate: A street cleaning department may use the sewers for facilitating snow removal. Care is not exercised in separating debris, and the sewer becomes blocked. No concern is felt by the street cleaning department. A lazy street sweeper disposes of a pile of

rubbish by pushing it into the inlet of a catch basin. It costs three times as much to remove it from the catch basin as from the street surface. Refuse from catch basins and sewers as well as from highway repairs and street sweeping in the same area are hauled to dumps by independent transportation forces. Water from hydrants is used for sprinkling streets, flushing pavements and sewers and repairing macadam highways. Careless use results in waste of water, frozen hydrants and remarks from the water department. A water main bursts, washes out an underground channel, the sewer and the street surface cave in and three separate forces are called to the rescue. Part of the maintenance of macadam and dirt roads runs so close to the function of street cleaning as to make it impossible to tell where one ends and the other begins. The problem of jurisdiction is not a simple one to solve, but in its present form unquestionably induces great inefficiency.

The fourth cause of inefficiency lies in the influence exerted by political interests. The average caliber of municipal labor is always lower than should be attracted by the higher wages paid. It seems quite possible that this may be occasioned by the disinclination of ambitious and competent labor to remain in a service where, as will be seen later, recognition is based largely if not entirely on political considerations.

Of all the factors which are not within the control of an administrative official, there is perhaps no single one which militates more seriously against municipal efficiency than the effect of political influence on the discipline of a labor force. When any employee, be he laborer, foreman or superintendent, is in a position to do as he pleases and snap his fingers in the face of his superior officer if rebuked, the efficiency of the entire force to which he may be assigned is gone. It is no uncommon occurrence for a foreman to suspend a laborer, request his discharge, and then be instructed to reinstate him and "leave him alone." After such a performance how can it be expected that the foreman can compel the obedience of the remainder of his force?

The appointment and retention of incompetent and undesirable employees can generally be traced to political influence. The uncertainty of tenure in the higher positions, due also to this reason, has a direct effect on the efficiency of all subordinate forces. The employment of labor greatly in excess of actual needs may be ascribed to the same cause. Especially is this true in respect of foremen and assistant foremen.

Vehicular service, when hired, is an especially fruitful field for the politician. The manifestations of inefficiency appear in the form of decrepit horses, dilapidated vehicles, untrustworthy drivers and insubordinate service.

These are some of the extraneous difficulties which face the official who is honestly anxious to secure efficiency from his labor forces.

With regard to the causes of inefficiency which fall within the control of an administrative head, a complete enumeration would produce a lengthy catalogue. Confining attention to a somewhat general classification, it may suffice to mention:

1. Inefficiency in the supply, distribution and use of material, plant and equipment.
2. Inefficiency due to lack of knowledge concerning work conditions and requirements.
3. Inefficiency due to lack of predetermination in the assignment of work.
4. Inefficiency due to improper organization of force.
5. Inefficiency due to improper methods and unsystematic procedure.
6. Inefficiency due to lack of discipline.
7. Inefficiency due to lack of standards by which performance may be judged.
8. Inefficiency due to inadequate and inaccurate records of performance and conduct.

It is obvious that the output of productive labor will be directly affected by the efficiency of supply, distribution and use of material, plant and equipment. Municipal corporation yards and shops are, as a rule, improperly located, and, in addition, are paradoxically both insufficient in number and excessively numerous. To illustrate: In the City of New York, some five or six departments, in some cases bureaus of the same department, each maintain separate yards in practically the same territory, and yet the yards of any one department are generally insufficient to serve effectively its needs in that district.

Almost without exception municipal yard and shop equipment, as well as field equipment, is sadly inadequate as well as antiquated. Supplies which should be always in stock are suddenly found to be entirely wanting.

Information regarding the status of current work is sadly deficient. There is scarcely a single maintenance bureau that does not depend largely, if not entirely, on its "complaint book" to provide work for its gangs. The length of the complaint list is often an excellent index of efficiency. In practically no municipal department is information concerning the work to be done or the conditions that will govern its performance systematically ascertained and advantageously utilized. Instead of daily assignment of carefully predetermined work, a foreman is given a certain territory and told to "keep it in shape," or handed a bunch of complaints and told to "fix 'em up."

Municipal labor forces are as a rule very poorly organized. The proper relation between labor and supervision for a given class of work is seldom maintained. A foreman may be found in charge of two or three men, where the effective prosecution of the work demands at least twice that number. Again, it may be found that the foreman has a force far greater than can possibly be used to advantage on the work in hand. Both of these conditions cause a restriction of output. Whenever the current volume of work is greater than this restricted output, the neglected work becomes a source of public complaint.

It would be exhausting to attempt a delineation of faulty methods and procedure of municipal work. They are all due to the fact that there is no penalty or premium on performance.

The most common, and at the same time, most serious loss of labor efficiency is due to waste of time. Lack of discipline is responsible for this condition. No administrative official can truthfully deny knowledge of the enormous waste of time, wherever it may occur in his labor forces, without acknowledging, thereby, his utter incompetence.

Without a knowledge of the results that ought to be obtained as an equivalent for the time and money spent, the municipality cannot judge of the efficiency of its employees. Nevertheless, standards of work for purposes of comparison have rarely been established.

The lack of accurate work records prevents such a comparison even if standards be established. The difficulty of securing accurate records of performance is surprising. Unless carefully watched, and sometimes even then, foremen will exaggerate in reporting their

actual accomplishment, and, what is worse, the proper check is seldom established. More often than might be expected, the efficient performance of work is subordinated to accounting convenience. Systems of records planned to meet financial needs are frequently put into force without considering the effect upon the work procedure. In fact, it is quite generally true that municipal records fail to reflect the very thing which is the cause of their existence. Labor, material and equipment are never purchased, except for the reason that by their use some desired result may be accomplished, yet in municipal records the relation between results and expenditures is hardly ever shown.

A contrast to the above inefficient features of municipal work may be drawn by considering, in brief outline, the corresponding conditions surrounding the private contractor's work.

The contractor is more or less of a specialist, at least for the time being, in that the scope of his operations is generally not as extensive as that of the municipality. His problem, as a whole, is therefore one of lesser magnitude. He does, however, what the municipality does not—he considers his problem as a whole as well as by separate features. He studies his organization, plant and equipment as an entire unit, which must be designed to produce effective results by co-ordination of its different parts. He is not handicapped in employing labor by any civil service restrictions. He strives to get and keep the most competent, discharging at once those who cannot make good. He measures the competency of his labor by the results produced. In the event of an increase in force, he is under no obligation to re-engage former employees, although, as a matter of fact, he strives to if they have served him well. He often allows his subordinates to "hire and fire" their own men, but holds them for results. The employee is expected to do whatever may be necessary and expedient, irrespective of his title. The methods of financial control used by the contractor are relatively simple. On account of the fact that he is paid for results, he requires results in return for expenditure and maintains a control accordingly. All of his expenditures are paid out of one fund—his bank account—but he segregates, in great detail, the record of expenses in order that he may know exactly the unit costs of his work. These he can compare with his previous experience and with the price which he receives for his work. In the matter of wages paid, the contractor, while by no means unrestricted,

has still a much wider latitude than the municipal official. He can at least offer a bonus for increased output.

The tendency of the contractor is to strain the relation between wages and output to the breaking point in one direction while the municipality allows it to be strained to nearly the same degree in the other. Neither policy will produce the best efficiency; but the one adopted by the contractor has the advantage of economy.

The contractor may feel the deleterious effect of political influence, but in such case, there is always a *quid pro quo* whereby he gains, indirectly, at least, some advantage.

In undertaking work the contractor studies in advance the conditions to be met and provides for the supply and distribution of material, plant and equipment in a way to facilitate to the utmost his operations. Time is with him a most important consideration and he therefore eliminates causes of delay wherever possible. His discipline is strict; he permits no waste of time that he can prevent. That discharge will promptly follow the discovery of loafing is well instilled into the minds of his employees by knowledge born of experience. He invests without hesitation in labor-saving plant and equipment whenever he can be assured of a reasonable saving thereby. He utilizes his forces in the most advantageous manner by shifting them from one class of work to another as desired, and he does not functionalize his work beyond the point where it is effective. He organizes the units of his force to produce the best economic results. He distributes to these the maximum amount of work, employing the minimum number of units consistent with the progress desired. He knows how much work a given force should be able to do in a given time and watches to see that the record of performance fulfils this condition. The records cannot be falsified without his knowledge, since he is paid for results as measured by the other party to the contract. This is an important fact to bear in mind.

If the fiscal department of the average municipality should concern itself with the results of its per diem labor performance to the extent that it does with the results of contract performance, a vast improvement in efficiency would be inevitable.

Conceding that the contractor maintains an advantage over the municipality on practically every point mentioned, what is the compelling force that underlies his achievement, which is lacking in the municipal government? All of the conditions inducing muni-

cial inefficiency spell but one thing to the intelligent contractor. That thing is certain and sometimes serious personal cash loss. On the other hand, the elimination of the conditions which foster inefficiency means to him equally certain personal profit. Note well the situation—personal responsibility—only two possible results: certain reward for efficiency, certain penalization for inefficiency—behind, the prod of financial loss; ahead, the incentive of financial success. The contractor can always translate the profitableness of his operations into dollars and cents. The municipality cannot, until the value to the community of public convenience, comfort, safety and health can be determined on a financial basis. The people in their capacity as sovereign cannot therefore realize the financial burden that they invariably impose upon themselves in their capacity as subject, by permitting inefficient performance on the part of their public servants. Municipal officials having always on this account the opportunity to shift the burden of loss due to inefficiency upon the ignorant public without the likelihood of discovery, feel no such personal concern for their actions as does the contractor.

The remedies then are obvious, at least in their general statement if not in the actual method of application:

1. Provide a practical and effective method of selecting competent personal service in every grade.
2. Establish a jurisdiction that will facilitate the performance of all inter-related functions.
3. Define individual responsibility clearly and insist on strict accountability.
4. Institute strict disciplinary measures.
5. Establish the standards to be attained.
6. Permit great latitude of administrative discretion.
7. Improve individual performance by educational methods.
8. Provide an accurate record of individual accomplishment.
9. Measure ability by results of performance.
10. Make the punishment for failure severe.
11. Make the reward for success attractive.
12. Publish the comparison of actual results with established standards.

Does this seem theoretical? Does it seem impractical? In 1910 the Commissioner of Accounts of New York City, at the invita-

tion of the Borough President of Manhattan, undertook the reorganization of a part of the maintenance force of the Bureau of Sewers. Its organization at that time consisted of 24 sewer cleaners and 38 horses and carts, divided into 12 gangs each in charge of a foreman. The cost of cleaning sewer basins approximated \$4.00 per cubic yard. Nearly all of the causes herein cited as producing inefficiency were found in greater or less degree. The work of improvement was conducted as far as possible along the lines above indicated. Within a few months the number of gangs and foremen was reduced from 12 to 4, the sewer cleaners from 24 to 16, and the horses and carts from 38 to 14. The total output was increased 100 per cent, wages increased 15 per cent and a saving in annual expenditure effected amounting to \$35,000, or 43 per cent. The average cost of cleaning per cubic yard was reduced from \$4.00 to \$1.45, with occasional costs as low as \$0.76. The net result was an increase in efficiency of 275 per cent.

Similar work of improvement, but on a much larger scale, has recently been inaugurated by the same Commission co-operating with the President of the Borough of Queens, New York City.

For several years the Bureau of Street Cleaning, Borough of Richmond, New York City, has been steadily improving in efficiency by the application of these fundamental requirements.

The entire problem of securing efficiency with municipal labor is one which requires much study and patient effort, study of minute detail as well as broad principles, study of human nature as well as individuals. Good government reform might well take a lesson in efficiency from the spoils system of partisan politics with its prompt personal rewards for service rendered.

EFFICIENCY IN HIGHWAY ADMINISTRATION WITH SPECIAL REFERENCE TO PAVEMENTS

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The application of scientific methods of management to a department of highways is not a new problem. Until very recent years, however, definite results derived from such a type of administration have been practically unknown. The men who have been placed in charge of the streets and highways have often been grossly incompetent and in some cases dishonest. More often absolutely ignorant aldermen and other city administrators retained the decision covering all such matters for ulterior motives not hard to guess. The necessity for a remedy and the remedy itself for such conditions are so apparent that dishonesty is now rapidly being supplanted by integrity and incapacity by at least a desire to learn. Even in the routine inspection the excessive amount of technical detail involved in the proper maintenance of pavements makes it imperative that the administrator be not only an engineer but also one who can appreciate the value of systematic reports and records. That is, he should be an efficiency engineer. How to make scientific efficiency result from the good intentions of the highway administration is the problem to be discussed.

For every engineer of highways or commissioner of public works there are two main problems in connection with the maintenance of pavements: first, the original pavement—its selection and construction, with the attending financial problems; second, the maintenance of the pavement after it has been accepted from the contractor, with the accompanying difficulties of tax budget appropriations to cover maintenance and inspection costs, and the very important question of the proper time to repave. Of these two, the maintenance proposition offers the more serious difficulty, but in order to follow the actual time sequence the original contract will be considered first.

Independent of whether the pavement to be constructed is a complete repaving or whether it is an original construction, the questions which should come to the mind of the highway administrator are identical so far as the selection of the kind of pavement is concerned. What is the traffic—how much, what kind, what percentage is horse drawn, what percentage is motor? What is the street grade? What is the character of the street—residential, tenement, manufacturing, shopping, occupancy by car lines? What has been the history of the street and what is its probable future? Finally, how much money is available? The question of the capital outlay should be made a point of minor consideration, not that the expenditure of money is of no consequence, but too close economy on the original financial side of pavement selection is in the end likely to result in no economy. Unfortunately, this statement can be impressed on the average taxpayer only with the greatest difficulty. It has been proved too often, however, in too many cities, to admit of more than a reasonable doubt.

With traffic records as a basis and a decision made as to the intended use of the street, whether for a boulevard or for general trucking, etc., the administrator must next select the general class of pavement which will satisfy his conditions. For heavy traffic on grades, a form of stone block; for the same kind of traffic on a more nearly level street, wood block; for lighter traffic in the residential district, a form of asphalt; for still lighter traffic on a park boulevard, a bituminous macadam.

A point of supreme importance which can be considered here only in the most general way, but must never be overlooked, is the preparation of proper specifications. Recently, attempts have been made by the government and by associations of engineers to unify and codify the experience of all highway engineers throughout the country and make it available for others, in the form of standard specifications. It is indeed a weak minded and narrow administrator who will rely solely upon his personal experience or the experience of his own city, in such matters; for by taking advantage of the mistakes and the successes of other municipalities, every city can be kept at the forefront. This is more nearly true in regard to specifications than to any other side of the pavement problem. Specifications prepared by associations of engineers whose integrity cannot be questioned are at the disposal of every highway department in the

country. It was an unhappy situation that, for some time, national highway associations and other municipal engineering societies often had behind their organization an ulterior motive. As a consequence small reliance could be placed upon their recommendations. But the advancing standard of the individuals who make up these organizations has materially raised the standard of the organizations as a whole, making them now invaluable to every highway engineer.

The contract and the specifications must be thoroughly understood by both the contractor and the contracting party, and the proposal for bids must be comprehensive. The courts in nearly every state demand this. Having once established a thorough understanding between the city and the contractor, specifications should be enforced to the letter. It is the right of every taxpayer to know that the specifications offered with the proposal for bids are being followed, and that the city is paying for no more and no less than what was asked for at the public hearing.

Preceding the payment of money comes the raising of money, which is variously accomplished by assessment, bond issue or tax levy. The financial problem in the construction of a pavement depends upon the conditions under which the pavement is being laid—whether the street is being improved for the first time or is being repaved, and what kind of pavement constitutes the improvement.

On original construction work the custom has usually been to assess the cost on the property benefited, but the proper distribution of an assessment is extremely complicated. In a purely residential district, where traffic is almost solely for the direct benefit of the adjoining property, an assessment of the whole cost of the improvement can be levied upon the abutting property without grave injustice. When, however, it comes to assessing upon the adjoining property the cost of a wide boulevard which will be used by the whole community, the injustice is obvious. Various compromises are effected in the different communities. Perhaps the most equitable one is to charge the abutting property with an arbitrary amount roughly corresponding to the cost of one serviceable pavement for a street of average residential width, allowing the property owner to make payment in as many as ten installments, if he so elects; such money to be credited to a paving fund originated by a bond issue for a term not greater than the extent of the deferred payments.

A number of states require that the assessment for any sort of public improvement shall not be greater than the actual increment derived by the property. This is, no doubt, an ideal theory, but just how to determine the exact benefit from public improvements is a question which has never been solved satisfactorily. In addition, the procedure offers many opportunities for injustice and dishonesty.

There are, however, two real objects in levying an assessment: (1) to distribute the cost of the improvement against the property benefited, and (2) to prevent automatically the laying of new and expensive pavements in absurd locations throughout the city. Consequently, even though assessments are often unfair to the individual, the city cannot afford to lose that protection. If but one assessment for paving is to be levied against each piece of property, even if the pavements on different streets are not identical, care must be taken in the preparation of the administrative code to insure that they shall be of one general class both as to wearing qualities and cost.

Repaving, particularly in the larger cities, cannot usually be considered a proper assessment charge. Neither is it a strictly proper item for the annual budget, owing to irregular expenditures. Under ideal administrative conditions, wherein equitable sums would be expended for repaving each year, the use of tax levy funds certainly would be justified. The scheme, however, is not compatible with the present policy of frequent administrative changes and the lack of standard pavement conditions. This difficulty could be largely overcome by the development of a detailed and studied plan for future paving work. When such a plan has been prepared, the lack of steady tenure in office by the chief administrator will not seriously affect the working out, if the following of the plan be made an invariable departmental policy. The failure of most cities to definitely outline future work indicates, for the present, the propriety of a bond issue. But while this may be the best method when properly conducted, it must be confessed that the issuing of bonds has often been a source of trouble.

In many cases enormous amounts of money for pavements have been unfairly distributed in the tax levy, owing to poor methods of financing bond issues. The tendency has been to issue bonds extending for a term much longer than the life of the pavement. Thus the community was called upon to issue additional bonds for repaving while still paying interest and sinking fund charges on a

dead pavement. Such a condition has been repeated as many as four times, the wear and tear being so heavy that repaving was often required before the original bonds were redeemed. Fifty year bonds have not been exceptional. The taxpayer was, therefore, carrying a yearly financial burden to which had to be added all of the actual maintenance cost. The cure is obvious—when bonds are issued the term should not exceed the life of the pavement.

A study of the situation seems to warrant the use of a ten year bond—a ten year serial bond, if possible. This may be too short a period for the smaller cities, but for the larger cities where the traffic is heavier and the wear and tear more rapid, the ten year period would surely be a step in the right direction. It must not be understood from this statement that pavements on an average do not last more than ten years. That, of course, is not true. But in the last few years of the life of a pavement the increasing cost of maintenance and the decreasing usefulness of the pavement make it unfair to distribute an equitable share of the original cost to the taxpayers of those years.

When patent pavements first came into general use, owing to the uncertainty in the minds of everyone as to their reliability, the cities in nearly every case required a long term guarantee from the contractor—a term which in some of the larger cities was longer than the average life of the pavement. Of course, this was absurd, and, in consequence, numberless abandoned contracts were thrown back on the municipality, and many paving companies went into bankruptcy. Then for a time, the attitude seemed to be that there should be no guarantee. This was probably a reaction too far in the opposite direction. Ideal specifications and inspection and the assurance of unquestioned integrity on the part of both the contractor and the contracting party would eliminate all necessity for any guarantee, but such ideal conditions are not yet attainable and, for that reason, it does not seem advisable at the present time to eliminate a guarantee entirely. Five years is long enough; probably a shorter guaranty period would be better.

The maintenance problem is one of detail, and on that account has become irksome to many an administrator, who prefers rather to deal with big figures and large items. Thus the control of maintenance has usually been relegated to subordinates who either did not know or did not care sufficiently about highway efficiency to

conserve the interests of the community. With the possible exception of the financing of paving work, which has already been discussed, more money has been wasted in maintenance than in any other division of highways. Maintenance combines the question of inspection and repair, embracing the wear and tear caused by traffic, cave-ins, public service corporations, departmental cuts, etc. It has to do with all kinds of pavements, and involves the question of whether repairs should be made by city gangs or by contract with paving companies.

The first step towards efficiency in maintenance is the installation of a comprehensive system of inspection. Of course there must be an assurance of accurate and honest inspection of workmanship in the original pavement and in all restored areas, but a basis for the location of repair gangs is equally essential. Such reports can be secured only from a system which will show the exact conditions existing at a definite date together with the history down to that point.

Preliminary inspection is a question of patrol of a given district. How many inspections are needed and how much ground an inspector can cover in one day are entirely questions of locality, of traffic, etc., and must be decided by each city for itself with direct regard to the district in question. There is no reason why the preliminary or patrol inspection of the streets should not be amalgamated with the patrol inspections of the other departments of public works. By decreasing the mileage which an inspector is forced to cover in a given period of time—at the same time increasing the scope of his duties by requiring not only reports on the condition of the streets but also on encumbrances, street signs, defective lights, etc.,—it will be possible to obtain more work per mile without additional effort and without imposing any hardship on the inspector. Greater diversity of reports will produce greater interest in his work and result in higher efficiency.

It is usually considered necessary to make a very clear distinction between the reports of wear and tear, and the reports of cuts, damage done from new buildings, cave-ins, etc. The reason for this is obvious from a financial standpoint. Wear and tear repairs are strictly a tax budget item, while repairs of cuts and other damaged areas, which have arisen by the specific act of the individual working under a permit or the like, are not so directly chargeable to the general

taxpayer. Such repairs should be paid for out of a special or trust fund made up from the deposits required on special permits issued to cover every damaging use of the highway.

Just how detailed a report should be required of the patrol inspector for wear and tear defects is largely a question of the condition of the pavement, or rather, what standard has been reached or is expected to be reached in the near future throughout the city. On great engineering construction work a most detailed inspection is required, but, unless the pavements have reached such a high standard that a wear and tear defect is an exception rather than a general rule, it would be cumbersome to require an individual report on every wear and tear defect every day it remains unrepaired. By properly educating the gang inspector to report explicitly the nature of the repair as well as the size of repair, the necessity for an itemized segregation of items in the preliminary reports is certainly not necessary.

To facilitate the routine office procedure, the preliminary inspection of each cut can be profitably reported upon an individual form. But it must not be forgotten in this connection that the less writing in the field the more work it is possible for the inspector to do. It is highly advisable to send from the office to the inspector a form filled out with as much information as possible and thus facilitate his work. He should be required merely to state that the rules and regulations of the department are not being violated in each instance, and to report the area and location of the cut. By making out this form in duplicate in the main office and retaining one copy, it is possible to set up a very simple "tickler" of the incoming reports of the patrol inspectors. To the above should be added enough supervision by reliable men to assure the official in charge that the reports of the inspectors are accurate and the outline of the system for preliminary inspection is complete. A certain amount of leeway must be provided for the reporting of fire-burns, cave-ins and areas damaged from unknown causes, also for the reporting of miscellaneous violations of the department's regulations, all of which are original inspections initiated in the field.

The next question is how to make use of the information contained in the reports from the patrol inspectors without establishing a routine so cumbersome that the overhead charges of the department become top-heavy. The first step is a system of accurate filing,

preferably by blocks and intersections, in turn grouped by contracts. A display map showing the locations of the gangs, and, by some simple means, the amount of yardage to be repaired within a given block, will prove of great assistance. For cuts and the like which are usually repaired on individual orders, a simple "tickler" file set to throw out all cuts remaining unrepaired at the end of the time limit specified in the contract will give information upon which to enforce the liquidated damage clause for such delay. If consistently followed, this process will assure prompt repairing in the majority of cases.

In formulating a system for inspection of the laying of pavements, particularly repair work, the assurance of adequate inspection at the paving plant is imperative. Good results never can be obtained from poor raw material, but the best possible material can be made useless by improper handling at the plant. These plant inspectors should be men with scientific training and could well be placed in close connection with the chemical laboratory.

This applies fully as much to a municipal paving plant as to that of a private corporation. In the smaller cities where it is not possible to obtain the continuous service of a paving company it is a great advantage for the municipality to establish its own repair plant in a small way. It has also been found from the experience of larger cities that it is possible to obtain good results from city repair gangs where those gangs were engaged on work not requiring highly technical employees or not involving special materials, the handling of which had to be left to technical men.

Inspection of repairs is a question of training the inspector. The absolute necessity for accurate reports both as to workmanship and measurements emphasizes the need for securing men whose honesty cannot be questioned. This latter question is no doubt a difficult one, but competent supervision will overcome it to a large extent. Some of the large public service corporations that deal directly with the paving companies in restoring cuts, etc., require that the reports of area restored shall be signed not only by their own inspector but also by the foreman of the paving company. This is a suggestion which need not be applied to municipal work if the contract between the city and the contractor provides that the city may at any time give direct orders, through its representatives, regarding repair work and may demand the dismissal of any foreman who is either

inefficient or dishonest. Next must follow the assurance that the reports received from the gang inspectors are accurate.

In connection with the training of a competent inspection force efficiency talks by the engineers of the department, explanations of specifications, the preparation of a comprehensive book of instructions prepared in such a manner that it can be easily understood by the inspectors, and all other such helps, are invaluable. Owing to the peculiar nature of the work, specifications for paving materials are of necessity complicated, and those for workmanship are broad and comprehensive, but lacking in detail. It is not possible to avoid entirely this complexity, but by proper instruction and by careful supervision it is quite possible to overcome the uncertainty in the non-technical minds of the usual type of inspectors, and foremen of paving gangs, as to just what is to be required of them.

Reports of areas restored can be very simple. All that is necessary is the location of the patch and a statement of the dimensions. Patches are often irregular, of course, and these dimensions must be taken from the nearest measurable figure. It is not advisable to have the extensions of areas calculated in the field. Greater accuracy at less expense can be obtained from clerks in the main office who know how to add and subtract and multiply, but who do not know the difference between good asphalt and poor concrete. Here again adequate supervision is imperative. The marking out of the areas to be restored and the reporting of the areas as restored should be made by the inspector who is with the gang. Some check over the economy in the distribution of repairs can be made by comparing the preliminary reports of the patrol inspectors as to area with the final reports of the gang inspectors. This, however, is not complete. Sometimes, considerable time will elapse between the preliminary report and the repairing of the defective area by the gangs, and just how much increase in defective area should be allowed for the given time can never be accurately estimated.

Whether or not to require a guarantee of the patches laid under a maintenance contract which has a life of but a single year has been a question considerably discussed of late. In order to enforce a guarantee it is necessary to plot the repairs made and to deduct overlapping areas laid during the course of the contract. Unless selected streets only be plotted, the plotting of repairs necessitates an enormous amount of drafting work, from which there is a considerable

question of any return on the investment. The net economy of this plotting work in the last two years on some of the most heavily traveled streets of New York has been less than five per cent, and if the general overhead charges were added to the cost of the plotting there is grave doubt whether the city would in any way be the gainer. Adequate inspection of material and workmanship and honest measurement really void the necessity of any guarantee period in a strictly maintenance contract.

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In connection with costs and with the payment of contracts, comes up the invariable question of how and where to get the money. Maintenance of pavements is surely a tax budget item and as such should be included in the estimate for the budget made up by the department. How to estimate the amount of money needed for repairs in the coming year is somewhat of a question, and the ideal method has by no means been reached. It is always possible, however, to set up for the different kinds of pavements the unit costs of maintenance per square yard of actual pavement laid, and it is also possible to find out the total square yards of pavement which have been under maintenance for the year. In order to make a comprehensive statement of the moneys needed for the coming year it is necessary to know two things: first the yardage which will come out of guarantee during the next year, and second, how much old yardage will be substituted by new pavements. Usually the termination of the guarantees are distributed throughout the year with the exception of December, January and February, and, if so, it will not be far wrong to divide the total coming out of guarantee by two in order to arrive at an average maintenance area on expiring guarantees, calculated on a whole year's maintenance basis. The same question of average applies with regard to the area which is to be newly repaved, if the repaving contracts are distributed equally throughout the year. It is then possible to estimate the amount of money required for the following year based on the average or unit cost per square yard for the previous year, applied to the yardage of that year, increased by the first of the two items mentioned and diminished by the second one. If the unit cost be high, the estimated amount for the following year will be correspondingly high. If the condition of the pavements at the end of the year be poor and it is intended that in the following year the conditions shall be brought up to standard, then either more money or greater efficiency of work is necessary, or perhaps both.

The study of the relationship between the repairing and the repaving of worn streets is, when considered scientifically, a decidedly new field. There are so many factors affecting the decision, that attempts to arrive at a scientific formula for such determination have not been wholly successful. It has always been the custom for the highway administrator to guess indifferently, or yield to pressure of one kind or another whenever it was deemed necessary to repave

question of any return on the investment. The net economy of this plotting work in the last two years on some of the most heavily traveled streets of New York has been less than five per cent, and if the general overhead charges were added to the cost of the plotting there is grave doubt whether the city would in any way be the gainer. Adequate inspection of material and workmanship and honest measurement really void the necessity of any guarantee period in a strictly maintenance contract.

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STANDARDIZATION OF SPECIFICATIONS FOR PUBLIC WORKS

BY WILLIAM H. CONNELL,

Chief of the Bureau of Highways and Street Cleaning, Philadelphia.

Within the last few years a great deal of study has been devoted to the standardization of specifications. While considerable advance has been made in some particulars, the subject is so broad that specifications in general have not been standardized thus far, and, from the present outlook, the standardization of specification is still in its infancy. The technical journals and periodicals are devoting considerable space, both in the news and editorial columns, to this all-important question, and if we are to judge from the apparently logical arguments for and against the various clauses in specifications, it will be some time before we will approach standard forms of specifications for the various classes of work. Before a specification is so drawn that it can be considered even to approach what might be termed a standard specification, it is not only important, but necessary, that each clause be thoroughly discussed by engineers, contractors and material manufacturers from different parts of the country in order that points of view based on practical experience in different sections of the country may be given due consideration, as local and climatic conditions are important factors in specifications for public works. A specification for a particular class of work that might be ideal in one section of the country would, in all probability, not fulfil the requirements in other sections of the country for the same class of work. It is only by a thorough and comprehensive study of existing conditions, based on the practical experience of experts trained in the various classes of public works carried on in different sections throughout the country, that any definite principles can be determined upon to govern the drawing of standard specifications. A standard specification should be based on certain definite principles, subject to minor modifications dependent upon local and climatic conditions. The standardization of specifications is therefore dependent upon a determination of these principles. This can best be accomplished through an exchange of views of not only the engi-

question of any return on the investment. The net economy of this plotting work in the last two years on some of the most heavily traveled streets of New York has been less than five per cent, and if the general overhead charges were added to the cost of the plotting there is grave doubt whether the city would in any way be the gainer. Adequate inspection of material and workmanship and honest measurement really void the necessity of any guarantee period in a strictly maintenance contract.

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membership is open to cities throughout the United States, with an associate membership open to contractors and material manufacturers. Engineers delegated by the respective cities meet once a year, and the committees on the different types of pavements present specifications which are open to discussion by the material men, the contractors and the convention-at-large. Considerable has been accomplished by this and other organizations of the kind toward the standardization of paving specifications.

Each branch of work coming under the head of Public Works covers such a large field that it is quite evident that little progress will be made toward standardizing specifications for the respective branches of work until some definite plan is formed with this object in view. General discussions have been carried on for some time, and while such discussions are of great value in so far as they represent different points of view and bring out many interesting facts, they will never result in standardizing specifications. It is time that some definite plan be formed; discussions are endless, and when carried on too long usually result in confusion. Many engineers say they do not believe in, nor see the necessity for, standard specifications for public works. It has often been said that such a thing is not practical. This is largely due to a misconception of what the standardization of specifications really means—it is only the determination of certain definite underlying principles that can be readily adapted to varying local and climatic conditions. There are, however, certain classes of work that are not affected by local and climatic conditions and that have long since passed out of the experimental stage, the specifications for which differ widely in different sections of the country. This is largely due to the fact that no concerted effort has been made to compare the specifications with a view to determining upon a standard specification embodying the most economic and scientific method of construction and selection of available materials. One of the most important questions before the engineers to-day is the standardization of specifications, and any step in this direction is a step toward efficiency and economy in public works. Engineers to-day are well equipped to formulate standard specifications. They have a more thorough knowledge of business and costs than they had a few years ago. If specialists in the different branches of the profession representing different sections of the country were assigned to standardize a speci-

question of any return on the investment. The net economy of this plotting work in the last two years on some of the most heavily traveled streets of New York has been less than five per cent, and if the general overhead charges were added to the cost of the plotting there is grave doubt whether the city would in any way be the gainer. Adequate inspection of material and workmanship and honest measurement really void the necessity of any guarantee period in a strictly maintenance contract.

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ments of public works throughout the country make it their business to co-operate with one another and with the engineering societies for this specific purpose.

The importance of standardizing specifications for public works would be self-evident if a comparison of the unit costs of specific classes of work performed under similar conditions were to be made. Unit cost records and the standardization of specifications go hand in hand, as a scientific and systematic investigation of the unit cost of work performed, methods of construction, workmanship, and materials used, must necessarily be made before any conclusions can be arrived at with a view to standardizing a specification for the particular class of work under investigation. Therefore such records should be installed in all public works departments. As a simple illustration of the desirability, both from an engineering and economic point of view, of establishing certain standards in specifications, let us take, for example, the following clauses in the specifications of different departments of public works for new granite curb set in concrete:

1. The curb shall be twenty (20) inches in depth, and from three (3) to eight (8) feet in length and of a matched width of five (5) inches on top, and at no point shall be less than four (4) inches in thickness. The bottom length shall not be more than six (6) inches shorter than the top length.

2. The curb shall be sixteen (16) inches in depth and not less than three and one-half ($3\frac{1}{2}$) feet in length, averaging on each block not less than four and one-half ($4\frac{1}{2}$) feet in length, and be five (5) inches in thickness, except as noted for bottom of curb.

3. The curb shall not be less than five (5) inches thick and twelve (12) inches in depth; the lengths may vary between three (3) and six (6) feet.

4. The curb shall not be less than sixteen (16) inches in depth, and not less than six (6) inches thick and four (4) feet long.

5. The curb shall not be less than twenty (20) inches in depth, and not less than six (6) inches thick and four (4) feet long.

6. The curb shall be nineteen (19) inches in depth, and not less than three and one-half ($3\frac{1}{2}$) feet in length, averaging on each block not less than four and one-half ($4\frac{1}{2}$) feet in length, and be five (5) inches in thickness, except as noted for bottom of curb.

7. The curb shall not be less than three (3) feet or over twelve (12) feet in length, eighteen (18) inches in depth and of a matched width of six (6) inches on top.

8. The curb shall be cut in lengths of not less than six (6) feet, with a width of seven (7) inches on top and a depth of twenty (20) inches.

9. The curb shall be six (6) inches in width on the top and twenty-two (22) inches in depth, and not less than eight (8) inches in width at the base and shall not be less than six (6) feet in length.

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miles. These figures, of course, pertain entirely to original construction. Renewals would still further increase the additional cost of 22-inch curb over 16-inch curb in a given period of years. Now it is quite evident that, if a curb 16 inches deep will fulfil the requirements under ordinary conditions, the use of a 22-inch curb under such conditions is not justified. Nor is the use of an 18-inch granite curb justified. Where a 16-inch curb will answer the purpose, the difference in cost, as stated before, for the increased depth of 2 inches is approximately \$1,250 per mile. A mere difference of opinion does not justify this additional expenditure.

This illustration is a small matter compared with the enormous sums of money that could be saved, and with the benefit that could be derived through the standardization of specifications for materials and workmanship for public works. If, for example, the public works departments throughout the country would agree to carry the idea of standardization into the formulation, a basis of acceptance or rejection of deliveries under standard specifications of staple products, where the quality, weight and dimensions have been standardized, the carrying out of this policy would mean the gradual development of a uniform policy of accepting or rejecting all deliveries under such specification in place of the present method under which very often deliveries rejected by one department are accepted by another to the confusion of the trade. This naturally results in the public works departments paying exorbitant prices for such products, as the manufacturer must increase his price a proportionate amount to guard against the degree of uncertainty relative to the acceptance or rejection of his goods.

Standard specifications, resulting from scientific investigation and practical experience of technical experts, would be both equitable and safe, and it is quite evident that the standardization of materials would cheapen the products and act as the dominating regulator to the industries affected. The standardization of screw threads, steel rail sections, and of structural steel shapes are notable examples of this. It is also interesting to note that the agencies instrumental in establishing these standards were the United States Government, an engineering society, and a rolling mill association. This goes to show the importance of the co-operation of radically different agencies representing all phases of the situation in work of this character.

Of course there is danger of a fixed standard becoming unprogressive and falling behind the demands of the time, but, on the other hand, any changes made or suggestions relative to changes in the fixed standards would be apt to be the result of scientific investigations and practical demonstrations. There is very little doubt that the establishment of fixed standards would stimulate and encourage practical experiments based on scientific principles with a view to improving upon questionable standards. This would be a marked improvement over the arbitrary rulings and diversity of opinion of individuals, exemplified in some of the present-day specifications. The dissemination of the information obtained through such experiments would enable all departments of public works interested to know fully and accurately the results in efficiency and economy of the general practices prevailing and experiments made by every other department. This would prevent the repetition of experiments that exists at present; the repetition by one department of the mistakes made in another; and would place all information of value obtained in one department at the disposal of all the others, and thus do away with each department working independently in comparative ignorance of what is being done in other departments.

Continuous and progressive change is unavoidable in specifications for materials owing to the development of the manufacturing arts and the advancement of science. A specification must necessarily follow these developments if it is to maintain its value.

The evils that might follow from an unintelligent application of a standard specification must not be overlooked. But under our present organizations controlling public works, such evils would undoubtedly be far less than those that frequently follow from a lack of any established standards.

There cannot be any doubt about the urgent need of standard specifications for materials. It is evident that, to obtain the best results, the trade output should be standardized, as was done in the manufacture of steel rails, Portland cement, etc. Take, for example, the variation in size of quarry products, of which granite curb referred to above is a notable example, and consider the difference in the cost of shipment dependent upon the size, and the increased cost of labor at the quarry, due to the various sizes called for. The benefits to be derived through the standardization of such products would justify any expense that might be incurred through investigation

with this object in view. If we consider the broad field as to materials and workmanship, covered by specifications for public works, it is quite apparent that the benefits to be derived through the standardization of specifications in general are unquestionably of sufficient importance to justify a concerted effort on the part of the departments of public works throughout the country. The departments of public works have been suggested as a medium through which this can best be accomplished, because they can make it their business to delegate engineers to meet at an appointed time and place, probably once a year, for this specific purpose. The results of an analysis of the many methods of workmanship and dimensions of materials called for in specifications for a particular class of work carried on under similar conditions would be surprising, and would emphasize the importance of determining upon standard specifications for public works from a purely economic point of view. The economic value of adapting modern scientific business principles to any business enterprise is no longer doubted. As all classes of public works are purely a business enterprise conducted under the direction of the people for their benefit, it would seem that we have been somewhat careless in attending to our business affairs. We should co-operate with the public officials and engineers, giving them sufficient latitude to employ the necessary experts, and urge the departments of public works throughout the country to take up this question in a businesslike manner, and to leave no stone unturned until the desired result has been attained. Too much emphasis cannot be laid upon the fact that, in order to keep pace with the constantly changing trade conditions and advancement of science, from time to time, all established standards must be subject to modifications. Therefore, standardization must be a continuing principle. Any association or organization established for this purpose should be permanent and should be the medium through which all necessary modifications in public works specifications are made.

The American Society for Testing Materials and the American Society of Municipal Improvements have made some progress toward the standardization of specifications. But all the work done through these societies has been purely voluntary on the part of the engineers, and, consequently, lack of time through press of business seriously interferes with the work. The importance of the situation, however, will be observed from the following extract of the report of the Com-

mittee for Standard Sewer Specifications appointed by the American Society of Municipal Improvements:

Several meetings of your committee have been held and substantial progress has been made, but its work has not yet advanced to the point where any portion of it can be submitted to the society for adoption.

Your committee realizes that sewer specifications, in order to be worthy of general confidence and adoption as standard, and to insure as general unanimity of opinion as possible as to their various provisions, must cover a wide range of conditions and must be in general harmony with the conclusions of committees of other technical societies and associations which are working upon similar problems.

No standard specification for sewer construction which has been generally recognized or adopted as such, has, up to the present time, been produced, and the specifications in use by even the largest and most important municipalities vary widely in many of their most important provisions. Difference in local conditions would, no doubt, warrant special provisions in regard to some of the more important details, but there would seem to be little reason why, in the most important particulars, standard requirements may not be applicable.

Materials of construction of acceptable quality are usually available.

The functions to be performed by the finished structures are substantially the same, and if the structures are designed to be permanent, as economy and expediency would generally require, the standard of excellence in the materials and workmanship employed may well be uniform.

Specifications for sewers of extraordinary size and special design will generally require addenda supplementing the standard specifications to meet the requirements in each particular case, while for pipe and masonry sewers of ordinary size, standard forms should ordinarily suffice.

The work done by the committees of these societies is done at their own expense and in their own time, and consequently cannot be as thorough and cannot bring about the desired results as quickly as if the work were a part of the business of the public works departments. It is not only a part of the business of such departments, but a very important part of their business, if economy and efficiency in public works is desired. It is needless to say that all public works departments should, and are striving to, conduct their business along these lines. Then why not make the standardization of specifications a business proposition, by making it part of the engineers' work? The expense incurred would be infinitesimal compared with the benefits derived. The highest plane of economy and efficiency in public works can only be attained through the standardization of specifications. Methods of construction, workmanship, and materials are constantly undergoing changes. A permanent association for the

standardization of specifications would enable all the public works departments throughout the country to keep abreast of the times and avail themselves of the most modern and up-to-date specifications based upon scientific investigations of trained experts in the various branches of the engineering profession. Of course too much emphasis cannot be laid on the importance of an organization of this kind co-operating with all other organizations and technical societies engaged in similar work, as the scope of the work covers such a broad field that every effort should be made to make it as thorough as possible.

The whole country is alive to the importance of standard specifications and the benefits to be derived from the same. All that seems to be lacking is a well-conceived plan to bring about the desired results. Some plan along the lines of the one suggested would be feasible, and has a distinct advantage in controlling such a large proportion of the available talent, necessary funds and data. Another feature, and the dominating one, is that the undertaking would be a business proposition conducted along business lines, with a definite object in view, namely, the standardization of specifications for public works. Such a movement would undoubtedly receive the hearty co-operation of the American Society of Civil Engineers and other technical and engineering societies throughout the country. As it is essential to have some definite plan to start a work of such importance and magnitude, it is suggested that the public works departments co-operate with the American Society of Civil Engineers, with a view to devising ways and means best adapted to the carrying out of a plan along the lines of the one proposed, and thus bring about the desired results as speedily as circumstances will permit.

EFFICIENCY IN BUDGET MAKING

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A budget, to be complete, should not only show the purposes for which appropriations are made but also the sources of revenue to be raised for meeting such appropriations. In this article, however, the revenue side of budget making is not discussed.

In a recent message to Congress, President Taft called attention to the fact that, of all the principal nations of the world, the United States is the only one not on a budget basis. The budget of a government is the principal instrument of financial and administrative control over its expenditures. Without any such means of control it is not surprising that Senator Aldrich should have stated that, in his belief, the annual cost of our federal government could be reduced \$300,000,-000 by applying efficient methods.

As is the case with the federal government, practically all of our states also operate without budgets, and as a logical result the extravagance and waste of public funds by state governments has long been a subject of popular criticism.

Most American cities have, for many years, conducted their financial housekeeping on a budget basis. The methods employed, however, have been loose and inefficient. Instead of being used as a means for apportioning their funds according to the various needs of the community and insuring their actual application thereto by affording a basis for scientific accounting and auditing, the budgets of many American cities have too often been the means of hiding corruption. The making and passing of the budget has frequently been a carnival of log rolling, each alderman or commissioner inserting items for the special benefit of himself or his constituents and refusing to vote for the items inserted by his fellow-legislators unless they voted for those in which he was interested.

The making of a scientific municipal budget was first undertaken in 1906 by the City of New York. The task was approached by way of the health department, that branch of the city's service so closely related to its well-being. The functionalized and segregated budget plan worked out for that department was so successful as an object

lesson that the plan was soon extended to all departments of the city. Similarly New York City was the first to institute real public hearings on a tentative budget. In January, 1910, the Chicago city government adopted a functionalized segregated budget built on the New York plan with the further improvement of standard account titles. Milwaukee was the next to fall into line and Philadelphia has expressed the intention of adopting the idea. Officials of other cities throughout the country are now rapidly becoming interested in how to improve budget methods in their own communities.

The diversion of funds to purposes other than those for which they were originally appropriated has heretofore been rendered comparatively easy through lump sum or "mongrel" appropriations. Philadelphia's 1911 budget furnishes some striking examples of such appropriations:

Postage, ice, files, incidentals, meals, repairs, advertising loans and entertainment of city and visiting officials	\$25,000
Rent, postage, horse-keep and miscellaneous expenses in survey districts	25,000
Repairs, hauling and labor	60,000

Another striking example is taken from Chicago's 1909 budget before the segregated plan was adopted:

For repairs and renewals of wagons and harness, replacement and keep of live stock, identification, police telegraph expenses, rents, repairs and renewals of equipment, hospital service, printing and stationery, secret service, light and heat and twenty-five more horses and equipment for mounted police and for repair of Hyde Park station; also other miscellaneous expenses, \$205,000.

There can be no justification for making such appropriations. They are so indefinite that adequate accounting or auditing control is impossible. Appropriations couched in such general terms might be expended for almost anything. Moreover, financial reports are often little more than transcripts of appropriation titles arranged in statement form. Reports in which expenditures are grouped in such phraseology can afford but little information to taxpayers as to actual costs. While it is true that auxiliary systems of cost accounting would greatly remedy such conditions, the development of costs should supplement rather than supplant the budget accounting.

Standard Form of Budget

Effective control over expenditures depends largely upon the care with which provisions are made to render ineffective the methods

which have been employed by administrators to circumvent the implied purposes of appropriations. Since an analysis of the requirements of the various departments of a city will develop many elements in common, methods of standardization have been devised which render possible the highest degree of control and stability in the method of preparing the budget.

Standardization of a city budget reduces to a definite fixed classification all of the things or objects of expenditure for which a city spends money. These are usually termed standard accounts. Once having determined the amounts required according to objects of expenditure the next step is to ascertain what public services are to be secured from the expenditure. These public services are known as "functions" and should be shown in a standard budget grouped under departments or other organization units. For example, a health department may perform several functions, such as milk inspection, sanitary inspection, child hygiene, etc.

By means of such an arrangement a clear and comprehensive picture of the various municipal functions and activities is obtained and a basis made available for judging understandingly the adequacy or inadequacy of appropriations. Not only are the appropriations for each function shown thereby but also what services or things must be provided in order that such functions may be performed.

After working out a segregation it should be adopted as a standard and not deviated from thereafter, because the comparisons thus afforded between functions, sub-functions and objects of expenditure become of more significance and value from year to year.

It should therefore be made mandatory, through charter provision or ordinance, for the appropriating body to prepare each year's estimates and also pass the budget according to the standard adopted. Besides making possible comparisons between like appropriations from year to year, simplifying and improving the accounting, auditing and reporting methods, the adoption by a city of a segregated and standardized budget makes very difficult the former custom of including "jokers" under the cloak of appropriations for various and indefinitely stated purposes.

A classification under which the objects of expenditure of the City of New York may be logically grouped and which is adaptable to almost any city is as follows:

1. Personal service.
 - (a) Salaries and wages.
 - (b) Fees.
 - (c) Commissions.
 - (d) Other.
2. Supplies and materials.
 - (a) Fuel.
 - (b) Forage.
 - (c) Provisions.
 - (d) Material.
 - (e) Other.
3. Purchase of equipment.
 - (a) Furniture and fittings.
 - (b) Motor vehicles.
 - (c) Vehicles other than motor vehicles.
 - (d) Live stock.
 - (e) Other.
4. Transportation service.
 - (a) Hire of horses and vehicles with and without drivers.
 - (b) Storage of vehicles.
 - (c) Shoeing and boarding horses including veterinary service.
 - (d) Other.
5. Special contractual service.
 - (a) Repairs and replacements.
 - (b) Inspection.
 - (c) Other.
6. Communication service.
 - (a) Telephone.
 - (b) Postage, telegraph and messenger.
7. Miscellaneous expenses.
8. Fixed charges and contributions.
 - (a) Debt service.
 1. Interest.
 2. Redemption.
 3. Sinking fund instalments
 - (b) Rent.
 - (c) Pensions.
 - (d) Insurance.
 - (e) Care of dependents.
 - (f) State taxes.
 - (g) Other.
9. Capital outlays.
 - (a) Purchase of real estate.
 - (b) Construction and betterments

It is desirable that a minimum of discretion be exercised by administrative officials in determining under what classification a given expenditure should be charged, because experience shows that several different officials will sometimes charge an item to several different accounts—each official giving a good reason for his decision. Definite schedules showing the items chargeable to each account title should therefore be prepared, printed and distributed throughout the departments to all employees who prepare purchase requisitions, audit vouchers or keep accounts. The schedules should contain in detail a list of every kind and class of service or thing for which the city spends money, arranged both alphabetically and according to accounts chargeable.

These schedules when prepared should be codified so that each kind and class of service or thing can be readily expressed through the

use of symbols. This may be done, as in Chicago, by using numerals to designate departments and functions; letters to designate the standard accounts, and numerals again for the items chargeable to the several accounts. Another method is the Dewey decimal system of library classification. As an illustration of the Chicago scheme, 24 E 156 might denote absorbent cotton for the bureau of child hygiene in the health department—the numbers 20 to 25 inclusive denoting health department and 24 the bureau of child hygiene, "E" denoting the standard account "supplies" and 156 denoting absorbent cotton. The Dewey system is advocated by the President's Commission on Economy and Efficiency, and is being successfully operated in several departments of the United States government. The simplicity and elasticity of this system as applied to a schedule of supplies is indicated in the following illustration:

A	Supplies.
A 1000	Provisions.
A 2000	Forage and other supplies for animals.
A 3000	Wearing apparel.
A 4000	Fuel.

Extending this method further, "provisions" would be subdivided into further classifications, for example:

A 1100-1199	Meat, fish and fowl.
	Beef:
A 1110	On the hoof.
A 1111	Dressed in carcass.
	Veal:
A 1120	On the hoof.
A 1121	Dressed in carcass.
A 1200-1299	Dairy products and eggs.
	Milk, fresh:
A 1210	Cow's milk.
A 1211	Cow's milk modified.
	Preserved milk:
A 1220	Condensed milk.
A 1221	Evaporated milk.

and so on *ad infinitum* for each classification regardless of the number of classes or the detail involved. Extended so as to include departments or other organization units and the functions performed by

each unit, the code designation D H 11 A 1000 would represent (D H) department of health (11) hospital service—care of patients (A 1000) supplies—provisions. The adoption of a definite code system will not only furnish an excellent basis for requisition and audit, but will simplify the compilation of statistics for use in preparing budget estimates and in making public reports.

The compilation of statistics by use of code symbols is best accomplished by mechanically punching the code symbols in cards and then sorting and tabulating the cards with electric sorting and tabulating machines. Information can now be acquired in this manner which a few years ago was only obtainable through laborious clerical effort.

Salaries and wages of officials and employees represent a very large part of the city's budget—often ranging from one-half to two-thirds of the total. Much political intrigue and jobbery is frequently carried on through failure of the appropriating body to provide for adequate control over appropriations of this character.

To circumvent and minimize, as far as possible, the misuse of salary and wage appropriations, it is essential that they be classified in four general groups, namely:

1. Salaries, regular employees.
2. Wages, regular employees.
3. Salaries, temporary employees.
4. Wages, temporary employees.

Groups 1 and 2 represent remuneration provided for employees engaged during the entire year (including or excluding Sundays and holidays, as the case may be) regardless of season, weather or the quantity or exigency of the work to be done. Groups 3 and 4 represent remuneration provided for employees who render temporary service dependent upon season, weather or the quantity or exigency of the work to be done.

Under groups 1 and 2 would be listed in detail the number of incumbents, rate and amount provided for each class and grade. To illustrate: under salaries, regular employees, might appear

1 director.....	\$5,000
1 chief clerk.....	2,500
2 clerks @ \$1,800.....	3,600
2 bookkeepers @ \$1,800.....	3,600
2 stenographers and typewriters @ \$1,200.....	2,400

and under wages, regular employees,

1 foreman of mechanics	@ \$5.00 per day (365 days)	\$1,825.00
2 carpenters	@ 5.00 " " (313 ")	3,130.00
3 plumbers	@ 5.00 " " (313 ")	4,695.00
1 mechanical engineer	@ 4.50 " " (365 ")	1,642.50

Similarly, under groups 3 and 4, would be listed each class and grade and rate of compensation. Instead, however, of showing the number of incumbents in each class, the schedule would show the time of service based upon the estimated "man" days, weeks or months required for each class and grade of service. To illustrate: under salaries, temporary employees, might be listed:

Accountants	@ \$2,100 per annum (36 months)	\$6,300.00
Stenographers	@ 1,000 " " (18 ")	1,500.00

and under wages, temporary employees might be listed:

Foremen	@ \$5.00 per day (60 days)	\$300.00
Calkers	@ 4.00 " " (60 ")	240.00
Laborers	@ 2.50 " " (1,150 ")	2,875.00

Such grouping will permit the director or other department head to utilize his appropriations for temporary employees as the requirements of the work demand. He could, for example, if the above illustrations were actual appropriations, engage six accountants for six months, twelve for three months or twenty-four for one and one half months, or, in the case of wages, ten laborers for 115 days or one hundred laborers for eleven and one-half days. In fact, he would have entire discretion as to the number of incumbents and length of service for each temporary position so long as the total number of work units expressed in days, weeks or months were not exceeded.

In reply to objections that the administrator should not be tied down to the extent of losing entire discretion in the application of his appropriations, such allowances for temporary employees should be granted, thus providing the elasticity needed to conduct efficiently the work of his department.

Such elasticity as may be necessary in the standard accounts other than salaries and wages may be provided subsequently by *inter se* transfers, herein later discussed.

Segregation of appropriations within a department or other organization unit according to functions, sub-functions, and standard accounts is the only means of affording adequate publicity of the

financial provisions made for carrying on each function. It enables one to ascertain readily, for example, what means are made available for conducting a campaign for the reduction of infant mortality, for milk depots, for visiting nurses, for child hygiene; or to furnish a supply of water, subdivided as to administration, collection and storage, pumping, distribution, analyzing and testing, etc.

The plan of functionalization referred to may be extended so that departments or other organization units can be grouped according to the general functions they perform for the community as a whole. For example, the police and fire departments, building inspection, etc., may be grouped under "public safety." This idea has been advocated for a number of years by the Bureau of Census in Washington and a number of cities in the United States have adopted it in presenting financial reports. General government, public safety, health and sanitation, care of the dependent, delinquent, and defective are some of the broad functions each municipal corporation performs for its community. This kind of functionalized grouping of budgetary appropriations however, can be best shown in the form of a summary, attached to the budget.

Preparation of Budget Estimates

To facilitate the preparation of a standard form of budget, it is essential that estimates be prepared in accordance with the standard account titles and functions. Uniformity should be strictly adhered to. Standard forms should be designed for departments or other organization units to be used by them when submitting their estimates. Careful thought should be given to designing these forms. What character of information will best shed the light upon requests for appropriations and what is essential to provide the best basis for investigation, are the principal considerations to be borne in mind. The number of different forms should be as few as possible, so as to simplify the work of preparing the estimate. Estimates for salaries, regular employees, for example, should be submitted on columnar ruled forms arranged to show: (1) title of position; (2) rate; (3) estimate; (subdivided as to (a) number of incumbents, (b) total amount, (c) salary increases, (d) new force); (4) comparison of estimates with latest pay-roll condition. Estimates for salaries, temporary employees, should show the title of position and rate, the number of days, weeks or months estimated to be required and the

amount necessary to pay therefor, also comparative data for the previous year.

The principle of requiring officials to show, not only the details of what is wanted, but also supporting comparative data whenever possible, admits of intelligent analysis and renders more simple the task of the appropriating body. Another valuable feature of this principle is the tendency it has to obviate careless and hastily considered estimates. It is hardly possible to prepare a logically supported estimate unless an intelligent analysis has been made of the expenses of previous periods. Estimates for supplies and materials should show in detail each kind, class, quantity and probable cost. If stores accounts have been kept, the consumption, both as to quantity and amount, during the previous year and the nearest six months period should be shown. Inventories at the beginning and end of the previous year, together with the latest one available, should also be set forth. If stores accounts have not been kept, expenditures, for the previous year and the nearest six months period, together with inventories, if available, furnish the next best information with which to support estimates.

Expenditures of the previous year are oftentimes useless as an aid in determining in advance the needs for the succeeding year. For example, purchases of supplies or materials in large quantities may be included in the expenditures for a given period, although actually consumed in subsequent periods. It is apparent, therefore, that expense accounting and stores accounting are of primary importance in efficient budget making. Through such mediums only is it possible to obtain an accurate idea of the cost of conducting each function or activity. What was obtained and what was expended in obtaining it is information necessary in determining the desirability of expansion or contraction through larger or smaller appropriations.

Departments should be given ample time in which to prepare their estimates. Printed forms should be in their hands several months in advance of the time set for passing the budget. Ample time should also be allowed for investigation of the estimates and the preparation of a tentative budget for public discussion before the appropriating body. Budgets should not be made in secret. The widest publicity is desirable, and intelligent expressions of approval or disapproval of every item should be encouraged. Estimates should

be printed for distribution. In large cities separate pamphlets should be printed for each of the large departments, because individual criticism is usually concentrated on one particular department or function.

Passing the Budget

The departmental estimates having been made available in printed form, it is always desirable that the fullest publicity be given thereto. Responsible civic organizations should be encouraged to examine into the need for the amounts requested. While it is true a department head should know more about the needs of his department than anyone else, local political conditions are often such that the time of such executives is mostly consumed with matters other than the actual conditions within their respective departments. They must rely on reports of subordinates, and these latter sometimes lack sound judgment as to the needs of even their particular divisions. They often fail to sense the comparative importance of the several functions or divisions of the department. Even when a department head is himself thoroughly informed as to the conditions within his organization he too sometimes lacks the proper perspective as to how the amounts should be apportioned between the several functions of his department. It is of much importance, therefore, that either the comptroller or the appropriating body should directly or indirectly conduct a detailed investigation to determine the adequacy or inadequacy of departmental requests. Such investigations should, of course, include careful consideration of results accomplished the previous year with the funds allowed, unit costs, and the quantity and quality of service needed to be rendered the ensuing year. Civic organizations which from year to year continue to study the field of municipal service are often specially fitted and equipped to assist in such investigations.

The budget of a city when once adopted remains in force for an entire year. It directly affects in some way the daily life of each person residing therein. The spirit of the laws upon which our entire governmental structure is erected demands that, before appropriations are formally passed, citizens be given an opportunity to appear before the appropriating body and state any objections they may have. For this reason, as soon as the estimates have been examined by the officials charged with that duty, it is desirable that a tentative budget

be prepared and public hearings held thereon. To insure an adequate interest in such public hearings, the dates and hours thereof should be given publicity in the local press at least two weeks in advance and copies of the estimates or tentative budget generously distributed. If a large number of citizens desire to be heard, a rule may be adopted whereby spokesmen only shall be recognized.

As a means to help inform the public of the vast details of a city's business, New York, in 1910 and in 1911, held what were termed "budget exhibits." They were kept open for one month immediately preceding the passage of the budget in each year. Facts and figures graphically displayed, intermingled with physical objects, informed the visitor of the city's activities—what had been and what was expected to be done with taxpayers' money. Through this means concrete information respecting estimates was made available to everybody for effective use at public hearings.

It has too frequently been the custom for a budget to be made up in "star chamber" sittings by a select coterie of political officeholders controlling the city's purse strings and then passed by a council or other legislative body sitting in "executive session." That day is rapidly passing and the people are insisting that public business be conducted publicly.

The chief financial officer may be sincere and progressive in his efforts to better municipal conditions and feel that he, and perhaps a few close advisers, alone know what is best for the city. Therefore he may refuse to take the public into his confidence, lest his pet plans receive the wrong kind of publicity and his efforts be brought to naught. He may even refuse until the last possible minute to confide in the legislative body charged by law with passing judgment upon the budget. Such a stand on the part of any public officer is ill taken. It has been demonstrated again and again that the public, when properly informed, may be relied upon to take wise action.

Many cities do not pass their annual budget until after the beginning of the fiscal year to which it relates. The annual expenditures of a city necessarily begin on the first day of its fiscal year. Unless the appropriations have been passed, such expenditures are made without adequate legal authority. Dilatory methods tend to confuse both accounting and auditing. It is desirable that ample time be provided between the final passing of the budget and the beginning of the fiscal year, to permit the administrative officers to become

thoroughly familiar with the provisions thereof, and also to permit the opening of new appropriation accounts.

Fully as important as the segregation of appropriations into standard accounts is the phrasing of the text of appropriation bills. The accounts having been selected, grouped, and codified for administration along certain definite lines, the text should clearly set forth the instructions necessary to secure such administration. For example, a paragraph similar to the following, taken from the new Chicago Budget, should be inserted in the bill:

That the comptroller and the heads of the other departments, bureaus and offices of the city government shall administer the amounts appropriated in this bill by accounts as specified by code numbers, and they are hereby prohibited from incurring any liabilities against any account in excess of the amount herein authorized for such account and from changing any salary or wage item herein.

It is always impossible to foresee all contingencies which may arise several months hence and demand an adjustment between appropriation accounts. Transfers from one account to another are therefore necessary from time to time. By compelling department heads to ask for transfers, attention is at once directed to the fact that their contemplated expenditures exceed the amount allowed, and the question which naturally arises and must be answered is, why? For this reason there will develop a tendency to exercise more economy in expenditures and keep within the original allowance if possible. Unless restrictions are imposed, however, the transfer privilege is sure to be abused. It is, therefore, well to prescribe in the bill that no transfer shall be made from a "salaries" account to any other than a "salaries" account. Similarly with respect to "salaries, temporary employees," "wages" and "wages, temporary employees," "supplies and materials," etc.

Instances have been known where a department head exhausted practically all of his appropriation for "wages" within the first few months of the year and then requested an additional appropriation or transfer.

Departments should be required to prepare their pay rolls in accordance with the items listed under appropriations for salaries or wages, regular employees, and be restricted to a monthly or weekly pro rata expenditure of the total appropriation for each item, according to the frequency of payment. By this means, all accruals resulting from the fact that positions provided for were not filled for •

the entire year or on account of deductions for absences or other causes would revert automatically to the general fund of the city.

This kind of control has been in successful operation in the City of New York since 1909, and has been the means of large savings. The amount reverting to the general fund from salary and wage appropriations for 1908, prior to the adoption of the pro rata expenditure principal, was only \$300,000. For 1909 it was \$1,060,000 and in 1910 it amounted to \$1,941,000. Such a practical working out of a principle proves conclusively the need of such control. Moreover, efficiency is not curtailed. Indeed, it is increased. Not only are large savings effected, but the realization that accruals in salary and wage appropriations cannot be expended precludes any attempt, that otherwise might have been made through political or other improper influences, to utilize the money in giving away jobs or in granting unjustified increases.

If standard specifications have been adopted for the purchase of supplies and materials, a clause should be inserted that expenditures from such accounts shall be made only on the specifications adopted.

Administering the Budget

The most efficient plan of budget making may be of no avail unless the budget, after it is passed, be efficiently administered. The restrictive provisions of the budget are there to be enforced. Claims against appropriations should be allowed only when they constitute proper charges against such appropriations.

Amounts set forth in the budget should not be permitted to become over-encumbered with liabilities. The pro rata restriction as to salaries and wages should be enforced. If, through an error when originally estimating the requirements, or, through an emergency arising which could not have been foreseen sufficiently in advance, the original appropriation for a specific purpose subsequently proves to be inadequate, a request to the appropriating body for transfer of funds from other like appropriations will provide the remedy.

Transfers of unencumbered balances should not be allowed, however, until the need therefor has been sufficiently investigated and the request published in the printed proceedings of the appropriating body at least a week before it is granted.

EFFICIENCY VALUE OF THE BUDGET EXHIBIT

BY J. HAROLD BRADDOCK,
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With the growth of cities and the increasing complexity of their activities there had been little concurrent development of means for popular control. Taxpayers accordingly had known progressively less concerning local administration. Inertia had continued antiquated methods, and in the resultant obscurity politicians had found their opportunity to plunder.

Then, as one of the many experiments to alleviate conditions, came the budget exhibit, planned to meet the inquiries and criticisms of taxpayers now restless with the rise in the cost of city government. By showing the citizen just what he is getting for his money, the exhibit was intended primarily to check official extravagance. It has done more. It has driven home the fundamental that the public business is the public's concern, and that every individual has a share in the collective burden of all. Furthermore, it has emphasized personal duty and personal opportunity as one. City officials are now realizing the necessity for applying to municipal activities the principles of scientific management, and in the effort to gather the basic facts are now learning to know how their work ought to be performed and the best organization and methods for its accomplishment. And, on the theory that every department head must justify in the eyes of the public his demand for a share of the annual expenditure, appropriating bodies, too, have become more determined against increases unless officials set forth graphically the salient facts which all ought to know.

The Budget Exhibit and the Citizen

Burke Cochran, in one of his famous bursts of oratory, referred to the successful English grafter who, when faced with the evidence of his guilt, declared that he marveled at his moderation, so little attention had his accusers paid to his operations. An American city official seems to hold a similar view of public interest, for, notwithstanding disgraceful exposure within a year, he asked \$7,350 increase for administrative salaries. Other than the budget exhibit,

what evidence had the taxpayer that \$135,328 total increases could be justified by this department, of which an investigating body had said that the superintendent was useless, that there was no executive supervision of work, that inspectors were incompetent, that favored contractors were repeatedly benefited? Taxpayers must be pardoned for wanting to know what a department has done during a year to warrant increases representing a capital of \$5,325,000 and equivalent to taxes on property worth \$13,400,000. Citizens from a residence district should be left to their own thoughts when told at a budget exhibit that to pay for seventy-nine new employees and increase the salaries of 268 others would require five miles of new \$10,000 homes.

Through the budget exhibit, citizens are becoming alive to the cost of municipal waste. They protest against adding great sums to city salaries, on the ground that many a family has to deprive itself of some of the comforts and almost of the necessities of life in order to pay the annual tax bill. While considering that there is much inequality in pay among city officials, they insist that such readjustment as is necessary can as well be made by cutting down the top-heavy salaries as by increasing appropriations. With the extension of the budget exhibit, equalizing downward is progressing.

The Budget Exhibit and the City Official

Time was when city officials brazenly asked "What's wrong with my expenditures?" And the citizen uninformed was the citizen cowed—which usually eventuated in the citizen disinterested. Where the budget exhibit has come into its own the situation is reversed. When one city official requests for the following year \$2,450 less than he expended during the previous year, and another asks for \$63,930 less, the taxpayer demands to know why a third department head wants an increase of 235%. And unless the official has conclusive reasons, the increase is denied. It is growing more difficult for political favorites to get padded budgets. Competitive bids are being substituted for graft in open market orders. Engineers attest their awakening by five times as much pavement laid in two months as in the preceding four years. A city official cuts salaries in his department from \$36,000 a month to \$12,000, knowing that budget exhibit publicity is worth more than old-time political tactics.

With the budget exhibit the city official wishes to or is forced to explain. He has to explain, clearly and pointedly. If he mumbles his statements, he has to amend. If he omits, he is discredited. It is now for the official and not for the citizen to describe salaries and wages so that padding could be discovered. One department head requests appropriation to repair paving on a basis of 300 to 365 days per laborer per annum; another calculates 200 to 300 days each. This is made clear by the budget exhibit. Social workers, trade unionists and societies for preventing cruelty arise to know by what laws, human, divine or political, the official could compel engineers, foremen and laborers to work 365 days a year. The taxpayer, too, wants to know just how it would be done. Even schoolboys ask why two wheelwrights require the constant supervision of two foremen wheelwrights and what is the matter with laborers when thirty supervising employees are required to keep thirty-eight laborers at work.

The Budget Exhibit and the Appropriating Body

By a curious mental astigmatism that affects taxpayer and official alike, it is easier to get \$100,000 for a top-heavy street payroll than \$10,000 to open a branch library or a milk station. With a budget exhibit, education and health have better conditions of competition. Here the street commissioner is forced to show results comparable in terms of taxes and unit costs with the figures of the health officer and the school superintendent, and these in turn must prove activities more valuable per dollar of appropriation than other department heads. These questions stand out: Shall there be four additional nurses for tuberculosis clinics, or a new automobile? Two additional nurses for social service work, or a new departmental draftsman? Tuberculosis day camps costing \$5,160, or free taxicab transportation for clerical assistants? Clinic physicians costing \$8,100, or doubled salary for a city official? Shall there be more training schools, more recreation centers, vocational training, domestic science, kindergartens, or shall there be more superannuated messengers and increased salaries all around?

Property owners obviously wish all the money voted that is necessary for the protection of health and safety. They approve semi-annual inspection of tenements and the removal of dark rooms. But having seen at the budget exhibit the best showing possible for

each department, they appreciate that it is still feasible to give all the education that is justified, to do all the health work that is needed, to give hospital patients plenty of beds and plenty of food, to check crime, to pave streets—in short, to widen greatly the scope of municipal activity, without increased appropriations, because of the money saved by retrenchment. They realize that the best possible reason for reducing a padded payroll is that the money is needed to save babies' lives, to buy food for consumptive patients, to provide truancy officers. They see that in opposing inefficiency they lose ground unless at the same time they approve and support efficiency. Those who are watching a city debt pile up, those who know that in that debt are vast sums that ought to have been put into budgets, realize that the time has come for the citizen who would do good without doing harm to reason about the budgets in terms of "either-or" and not terms of "both-and." The more worthy the activity, the stronger the reason why its administrators should not waste a dollar and should take the public completely into their confidence; the more reason also why its advocates should help city officials and the overburdened taxpayer adopt methods that will disclose opportunities for retrenchment and then compel such retrenchment. Through the budget exhibit this stands out as the great problem of budget making—the problem of alternatives.

The Budget Exhibit and the Civic Worker

If, in the past, taxpaying bodies have seemed to emphasize the importance of economy, while charitable bodies have seemed, as a rule, to want to spend even more money, it is largely because the two groups were looking at different facts. Philanthropists are spending millions a year to relieve individuals in distress and to remove conditions that cause sickness and immorality. Naturally they insist that the city stop manufacturing the supply of distress and help change unfavorable conditions. Taxpayers, on the other hand, are closer to their own tax bills. The philanthropist is perfectly willing to agree that not one dollar more ought to be spent than is necessary to meet 100% of the city's obligation to 100% of its population. Nor would any taxpayer claim that sickness and ignorance and theft should go unchecked. So with the budget exhibit as a means, those who want less money spent in the aggregate can now get together with those who want more money spent to

obtain particular benefits approved by all, with the net result to the community of retrenchment where waste is proved and more generous appropriations where needs are proved that cannot be met by present allowances. Coincidentally there is unity of volunteer agencies and taxpayers' organizations to stop waste, to increase efficiency, and to meet the needs of health, education and protection, by gathering facts and bringing influences to bear in an impersonal, non-political way to secure through city government a maximum increase in benefits with a minimum increase in expenses.

Co-operation of this kind must result in a definite plan, and so there is the example of the local needs association which at budget-making time formulates a comprehensive program with many such propositions as these:

- That the mayor provide for an adequate group of inspectors for the bureau of weights and measures.
- That the police department assume active direction, by means of a squad, special detectives, or in some other way, of the increasing number of mendicants throughout the city.
- That the proper department be permitted to establish farms for the treatment of the chronic inebriate and the chronic vagrant.
- That the department of education make provision for opening in the late afternoons and evenings, from April until October, rest and play spaces for mothers and children in the public school courts of the crowded sections.
- That seats be provided on the bridges for working people, mothers and children, and that the police department be urged to see that they are used by this group, rather than by loafers and the indolent.
- That the board of health establish at an early date a tuberculosis clinic in the very needy Italian section.
- That the department of charities consider seriously the great need of a convalescent home and sanitarium for adults.
- That the proper authorities bring pressure to bear at Washington to devise means of giving citizenship papers to foreigners desiring them without delay and unnecessary cost.
- That other offices be provided besides the one used at present, and that the widest publicity be given to the

fact that proper persons can obtain such papers in a dignified and rapid manner.

That the board of aldermen take up the question of push cart regulation throughout the tenement section of the city.

That arrangement be made to avoid selling without license, or graft in obtaining one, and that proper statistics regarding every push cart peddler be gathered in the bureau of licenses at the City Hall.

That the street cleaning department be urged to make use of the high pressure mains where possible for flushing the streets in the tenement section once a day during at least six months in the year.

That the tenement house and fire departments be so organized that inspectors shall visit the tenement houses at frequent intervals to insist that the fire escapes on yards and streets be kept clear.

That the number of inspectors, both of milk brought into the city by large and small dealers and of milk sold in groceries, delicatessen stores and lunch rooms, during the summer be increased so that adulteration, impurities, contagious diseases and germs contagious to babies be as far as possible eliminated.

That there be greater and more continued inspection of the moral character of the amusement boats plying on the river, bays and sound.

That more co-operation be carried on between the departments of the city and the gas and electric companies in the opening of streets.

Behind this program is a body of civic and social workers and hard-headed taxpayers, backed by such statistics and facts that the generally worded demand cannot possibly secure. Here again the budget exhibit brings out the superiority of fact, firmness and dignity over bluster, noise and hearsay.

The Budget Exhibit and the Public

As illustrated by the budget exhibit, municipal administration is developing along lines of competency, efficiency and scientific management. Money in gross is being economized, results are

being intensified. That the general public can understand savings only when they mean less money, is not the public's fault. And each year larger numbers are being brought by the budget exhibit to see that individual city employees are doing many times as much work, supplies are being made to go several times as far, municipal service is being extended and administrative efficiency developed.

Laying stress on the principle that one great object of all democratic government is to enlist the interest of every citizen—to get the taxpayer to see the significance of his government to his private life—the budget exhibit shows graphically how much money has been appropriated for a department, what has been done with it; what is planned for the future, how much is requested in the next budget; increase or decrease in amount; reasons therefor. The dollar question is put forward, but behind this is the attainment of efficiency. While the taxpayer is likely to ask only, "To what extent will it affect my rates?" the department head asks, "Where can I improve the organization and system to produce better aggregate results?" For all concerned there is a clearer conception of causes and effects, of costs and results. Consequently, city officials on record for promised results substitute system for disorder, employees with a goal replace disinterestedness with ambition, citizens awakened check up the effect. In other words, here is a complete exhibit of the working machinery of the city government, where any intelligent taxpayer may learn the use to which his tax money is put and acquire knowledge on which to reason more logically and forcibly against its misappropriation or waste.

ATTAINING EFFICIENCY IN CITY SCHOOL SYSTEMS

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Efficiency in education implies standards of efficiency and detailed knowledge of the results achieved.

Standards of Judging of the Efficiency of a City School System

The final test of whether a school system is doing its work well lies in whether it is giving to the community supporting it young men and women prepared to take their place and do their part in the life about them. Whether the young people now coming from our schools possess the health, the kind of knowledge, the degree of skill, and the qualities of character required in the immediate future, of strong men and women, can only be determined, if at all, after these young people have been out in the world from five to ten years, or even longer. To make the ultimate test of education the basis of judging the present efficiency of a school system is consequently out of the question. Hence the necessity of fixing upon and applying other criteria.

The idea that school work can or should be subject to efficiency tests is still foreign to most of the men and women engaged in education. Only here and there has the idea found acceptance and has the need of efficiency standards been felt. As a result but few such standards have been developed. Indeed, at the present time, we scarcely know what constitutes efficiency even in such formal studies as arithmetic, spelling and writing, to say nothing of having fixed upon definite standards by which to judge the efficiency of a city school system. Any standard proposed at the present time as measures of the efficiency of a city school system must therefore be very general in character.

We, however, believe it will be generally accepted that that school system is most efficient:

- (a) which reaches the largest proportion of the children of the community of school age;

- (b) which succeeds at the same time in giving to the largest proportion of the children of the community a complete elementary education, if not a complete high school education;
- (c) which gives at the same time to the children of the community the best quality of elementary and high school education;
- (d) which educates the children of the community, when everything is taken into account, at the smallest cost to the taxpayer.

Attaining Efficiency: Reaching the Children of the Community

Before a city school system can be judged with reference to the extent to which it is reaching the children of the community of school age, and before definite steps can be taken to increase efficiency in this direction, knowledge must be had of the number of children in the community who ought to be in school.

The compulsory attendance laws of most of the states require that all children between the ages of seven and fourteen be in attendance during the whole time the school is in session. To make sure that children have at least the opportunity to gain a complete elementary education, the laws of some of the states compel children under sixteen years of age, who have not graduated from the elementary school, to attend school for at least a given number of days each week. Most states do not stop, however, with making school attendance compulsory upon all to the fourteenth year and with compelling children who have not graduated from the elementary school to attend until sixteen, but of such worth is education deemed to be to the individual and of such importance to the state that it is made obligatory upon the community to afford to its children the opportunity of securing at public expense a high school education. In a word, it is generally accepted that the interests of the individual and the needs of a democratic society like ours demand that all children from six to fourteen years of age should be in regular attendance on the elementary school and that all children between fourteen and eighteen should be in high school.

There is, however, scarcely a city in the United States that has accurate knowledge of the number of children in the community between the ages of six and eighteen, and has this knowledge so

ordered that it may be made to serve as the basis of judging of the efficiency of the school. To be sure, the state laws require in many places a so-called annual school enumeration, but these enumerations are, as a rule, both inaccurate and incomplete, and, in most cases, it is impossible so to arrange the data collected as to show the number of children in the community of each of the several ages between six and eighteen, to the end that comparisons may be made between the number of children of a given age that ought to be in school and the number of such children that are in school. Further, the annual reports of most city school systems show the increase in enrollment year over year, and this increase is pointed to as evidence of increasing efficiency. But such data throw no light whatever upon efficiency. Indeed, in centers of rapidly increasing population, the schools may show an increased enrollment from year to year, and yet they may be reaching relatively fewer and fewer of the children of school age.

The first step in attaining efficiency in a city school system is, therefore, to secure an accurate school census which shows the children of each age between six and eighteen. A comparison of these data with the total enrollment by ages, in public, private, and parochial schools will reveal what proportion of the children of the community of each age are being reached by each kind of school; what proportion are not being reached by any school; and the proportion being reached by the public school.

Table I shows the school census, by ages, of the city of Cleveland for 1908-1909, the number enrolled in public, private and parochial schools, the number in no school, the per cent in no school, and the per cent of all the children of the city in the public school.

It will be noted that the sum of the children enrolled in 1908-1909 in the public schools of Cleveland and those claiming attendance in private and parochial schools is greater for the years six, eight, nine, ten, eleven and thirteen, than the total number of children of these ages reported in the school enumeration, which suggests that the school census is incomplete, and in nowise gives all the children in the city of a given age.

However this may be, it appears that the school breaks down even before the fifteenth year. Indeed, to such an extent does the school fail to attract, that 26.69 per cent of the children fourteen years old, 56.01 per cent of those fifteen, 73.45 per cent of those

sixteen, 81.39 per cent of those seventeen, and 90.18 per cent of those eighteen years of age, are neither in public, private nor parochial schools. Of the children fourteen to eighteen, sixty-five out of every hundred are subject to no school influence whatsoever, and at a period of life, too, when children are most plastic, when the foundations of future efficiency are laid, when habits controlling later action are fixed, when attitudes of mind are formed, and character is determined. Worse still, of the children between fourteen and sixteen, inclusive, not one child in two attends school, and this at a time when, as shown by the Massachusetts Industrial Commission, the child is practically industrially worthless—an economic loss and a loss in human worth and happiness permitted nowhere else save in prodigal America.

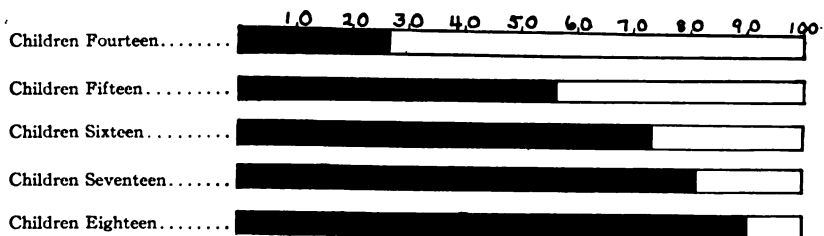


FIG. 1.—Black shows per cent of all the children of Cleveland of each age from fourteen to eighteen attending no school whatsoever in 1908-09.

It would therefore seem that, on the whole, public, private and parochial schools in Cleveland together are reaching to a greater or less extent the children of the community between six and thirteen, inclusive, yet were the facts at hand, these would doubtless show that a considerable number of children eleven, twelve and thirteen attend no school, and when it comes to children beyond thirteen, it can be said unhesitatingly, that all the education institutions of the city, together, are accomplishing but slightly more than half of the whole task of the school, that is, they are reaching but few more than half of the children of the city between the ages of fourteen and eighteen.

The public schools of Cleveland alone, it will be observed, are reaching in one way or another but 56 per cent of all the children

of the community between the ages of six and eighteen. Of the children between six and fourteen, the elementary school is reaching only 71.48 per cent, while the high school is bringing under its influence but 16.52 per cent of those between fifteen and eighteen.

To be sure, the public school is not the only institution that can give a good education, yet the fact that 29 per cent of the children of the community are receiving their elementary education apart from the public school, and that 65 per cent of the youth of the city between fourteen and eighteen are receiving no public school education whatsoever, is worthy of attention and serious consideration.

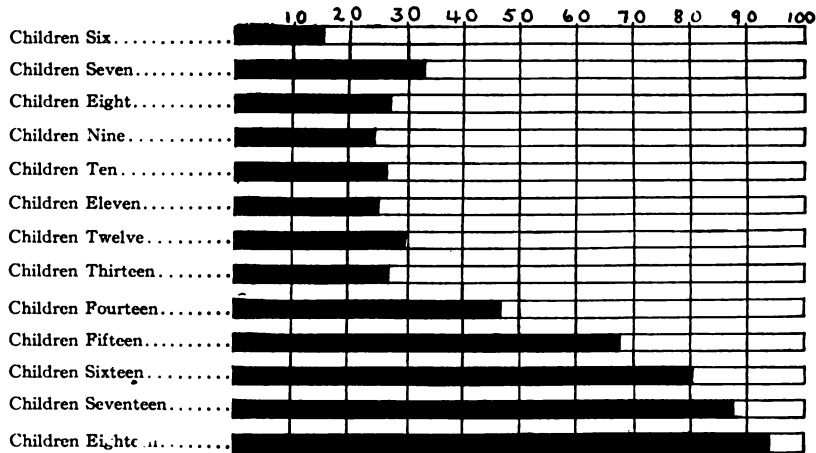


FIG. 2.—Black shows per cent of all the children of Cleveland of each age from six to eighteen not attending the public school in 1908-09.

Whatever opinion may be held with regard to the schools of a given city, a school census such as the foregoing gives a definite picture of the number of the children of each age to be reached, the number of each age reached, and the number of each age not reached; it also supplies data needed in planning improvements, and, when taken in connection with the census for other years, supplies the basis of judging whether or not the efficiency of the system with respect to reaching the children of the community is increasing or decreasing.

Attaining Efficiency: Holding the Children in School

An efficient school system must not only reach all the children of the community, but, in view of our second standard of efficiency, it must also hold children in school until they have gained a complete elementary, if not, a complete high school education. Hence the efficiency of a school system may be measured by the number of grades completed by children before they drop out permanently. The number of grades a child completes depends, however, very largely upon the number of years he remains in school, and upon the regularity of his attendance.

Increasing the Number of Days Attended During the School Year

Irregular attendance has seldom been looked upon as a measure of the school; it has been more often regarded as a delinquency of the child. However that may be, that school system is undoubtedly the most efficient which holds its pupils in school the largest number of days in the school year.

TABLE II.

Attending.	Pupils.	Per cent of Enrollment.
200 days.....	1,312	1.74
180 to 200 days.....	34,908	46.20
160 to 180 days.....	12,930	17.11
140 to 160 days.....	6,099	8.07
120 to 140 days.....	3,746	4.96
100 to 120 days.....	2,797	3.70
80 to 100 days.....	3,165	4.19
60 to 80 days.....	2,570	3.40
40 to 60 days.....	2,696	3.57
20 to 40 days.....	2,772	3.67
Less than 20 days.....	2,564	3.39
Total.....	75,559	100.00

Attendance records are universally kept, but the chief use made of such records is, as a rule, to report on average daily attendance. Attendance reports which give only average daily attendance are valueless. To be of value, whether they be for the month or for the year, they must show the number of days each child is in at-

tendance. The reports of St. Louis are illustrative. Table II shows the number of days each child was in attendance in the elementary schools of St. Louis (white districts only) during the school year 1909-1910.

Whatever the per cent of average daily attendance reported by this or that city school system, it would appear from Table II that children in large numbers attend school only a small portion of the year. Each tenth child enrolled in the St. Louis schools in

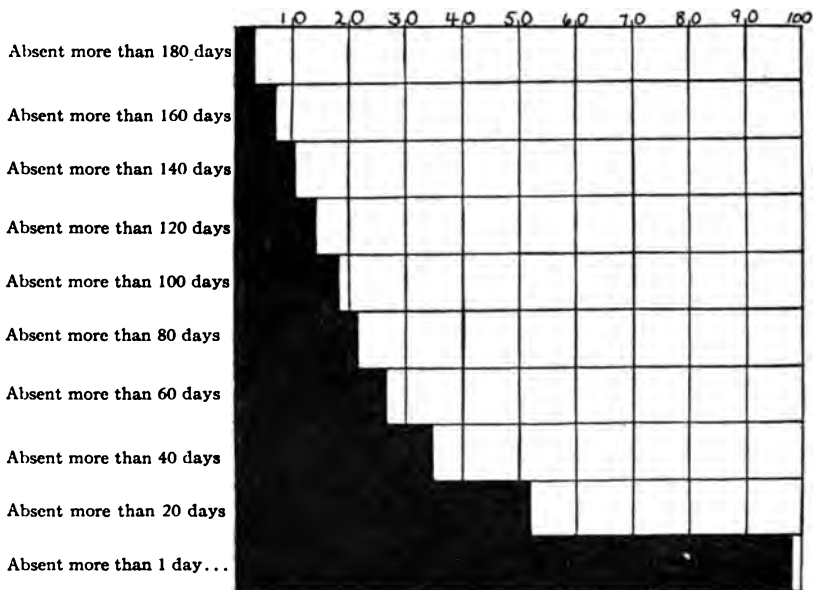


FIG. 3.—Black shows for 1909-10 the per cent of the total enrollment in St. Louis (white districts only) absent more than 180 days, more than 160 days, etc.

1909-1910 was actually in school less than sixty days; while one child out of each five attended less than half the time. Such facts, by recording actual conditions, not only show the need of making strenuous effort to hold more children in school a larger number of days, but also show the range of improvement.

With data such as are given in Table II at hand by months for each school in the system the weak schools may be located, and by studying conditions in these weak schools such changes may

be made as will materially increase attendance. Moreover, if data like those in Table II are collected and tabulated for the system as a whole for a number of years they become a reliable basis of judging whether the system is gaining or losing in holding power.

Table III shows for the elementary schools of St. Louis (white districts only) for the years 1906-1910 the per cent of the enrollment attending 200 days, 180 to 200 days, and so on.

Increasing the Number of Grades Completed

A city school system has attained a maximum of efficiency, in view of our second standard, only when it is giving to all the children of the community a complete elementary if not a complete

TABLE III.

Attending.	1905-6.	1906-7.	1907-8.	1908-9.	1909-10.
200 days.....	4.66	4.44	3.44	3.11	1.74
180 to 200 days.....	45.86	43.14	45.76	45.09	46.20
160 to 180 days.....	13.83	15.76	15.95	17.40	17.11
140 to 160 days.....	7.26	7.63	7.73	8.19	8.07
120 to 140 days.....	4.48	4.86	4.65	4.96	4.96
100 to 120 days.....	4.25	4.21	3.80	3.84	3.70
80 to 100 days.....	5.03	4.39	3.87	3.97	4.19
60 to 80 days.....	3.29	3.51	3.27	3.43	3.40
40 to 60 days.....	3.85	3.97	3.86	3.45	3.57
20 to 40 days.....	3.73	4.33	4.43	3.36	3.67
Less than 20 days.....	3.76	3.76	3.24	3.20	3.39

high school education. How far we are at present from this degree of efficiency is suggested by Dr. Leonard P. Ayres who estimates that on the average 49 per cent of the children entering the schools of fifty-nine cities of the country never go beyond the seventh grade of the elementary school, while Dr. Edward L. Thorndike estimates that on the average, in sixteen of our largest cities, but 33 per cent ever enter the eighth grade.

Until very recently no attention was given to how much education the children of the community were actually receiving, and even after a decade of agitation not more than two or three large cities have as yet taken any steps to find out these facts. Obviously, if school authorities are to know where the school breaks down, if

they are to make intelligent changes in the system in view of better adapting it to the needs of all the children, and if they are to have at hand the means of judging whether or not there is an increase in efficiency, records must be provided and data collected year by year on the number of terms of work to the credit of pupils leaving the school permanently. Cleveland has made a beginning in this direction.

Table IV shows the life history in numbers of the pupils entering the first grade of the public schools of Cleveland for each of the years 1889-1898, and shows what per cent of the pupils enrolled in the first grade during these ten years completed less than two grades, less than three grades, and so on through the elementary and high school.

It will be observed, when the official records are taken as the basis of judgment, that, for the ten year period under consideration, of all the pupils enrolled in the first year classes, 28.5 per cent completed in the public schools of Cleveland less than two grades, 29.5 per cent completed less than three grades, 31.8 per cent less than four grades, 42.9 per cent less than five grades, 53.8 per cent less than six grades, 64.9 per cent less than seven grades, 75 per cent failed to complete the elementary school, 84.5 per cent failed to finish the first year in high school, 89.6 per cent to finish the second year, 92.4 per cent the third year, and 94.8 per cent failed to graduate from high school.

In other words, half of the citizens of Cleveland, when judged by the records of the public schools, are taking up the duties of life with only the education afforded by the fifth grade, but one in four has enjoyed a complete elementary education, and less than one in seven has to his credit any high school work whatsoever—a condition which raises social and civic questions of the gravest character.

With these and other facts before them, the school authorities of Cleveland instituted a number of important changes. In the elementary schools the course of study was simplified; the number of classes for defective pupils was increased; a system of quarterly promotions was installed; a method of promotion was instituted which both takes into account all the abilities of the child, and permits bright pupils to advance through the school more rapidly than slow or normal pupils; backward and over-age pupils were

TABLE IV.

GRADE ELEMENTARY SCHOOL.										YEAR HIGH SCHOOL.				
Year Entered.	First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	First.	Second.	Third.	Fourth.	Graduated.	Year Graduated.
1888-9.....	7,785	6,196	5,771	5,405	4,094	3,509	2,891	2,024	1,252	877	567	468	435	1900
1889-90.....	8,333	5,091	5,382	5,259	4,594	3,922	2,852	1,973	1,292	871	536	477	403	1901
1890-1.....	10,468	7,116	7,277	5,990	5,552	4,386	3,335	2,373	1,463	941	604	530	478	1902
1891-2.....	10,197	7,515	6,881	6,890	5,795	4,564	3,488	2,460	1,515	996	638	565	485	1903
1892-3.....	9,341	7,123	7,185	6,853	5,789	4,637	3,512	2,555	1,512	996	714	625	514	1904
1893-4.....	9,422	7,103	7,061	7,120	5,875	4,640	3,548	2,472	1,437	933	727	648	515	1905
1894-5.....	9,976	7,527	7,339	7,267	5,957	4,849	3,583	2,519	1,584	1,056	851	717	559	1906
1895-6.....	10,830	7,908	7,851	7,751	6,454	5,278	3,837	2,708	1,716	1,251	933	752	591	1907
1896-7.....	11,720	8,074	7,908	7,782	6,522	5,108	3,893	2,820	1,741	1,277	928	740	611	1908
1897-8.....	12,257	8,129	8,164	8,108	6,671	5,511	4,312	3,222	2,074	1,334	936	821	671	1909
Totals.....	100,329	71,782	70,819	68,425	57,303	46,404	35,251	25,126	15,587	10,532	7,434	6,343	5,262	
(a).....		71.5	70.5	68.2	57.1	46.2	35.1	25.0	15.5	10.4	7.4	6.3	5.2	
(b).....		28.5	29.5	31.8	42.9	53.8	64.9	75.0	84.5	89.6	92.6	93.7	94.8	

(a) Per cent of enrollment in first grade advancing into each grade.

(b) Per cent of enrollment in first grade leaving before completing the grade.

NOTE: The data here used are taken from the official record of the Board of Education. The per cent of pupils leaving permanently is, however, without doubt too high, due to the treatment of first grade pupils and to including transfer.

segregated in separate buildings, and a regime and courses of study provided suited to their particular needs; and a system of elementary industrial schools was established for pupils who were fourteen years of age and who had not completed the work of the sixth grade. In the high school, the school day was lengthened and both technical and commercial high schools were opened. That over-age pupils both in the elementary school and in the high school might have opportunity to advance as far as possible in the work of the school

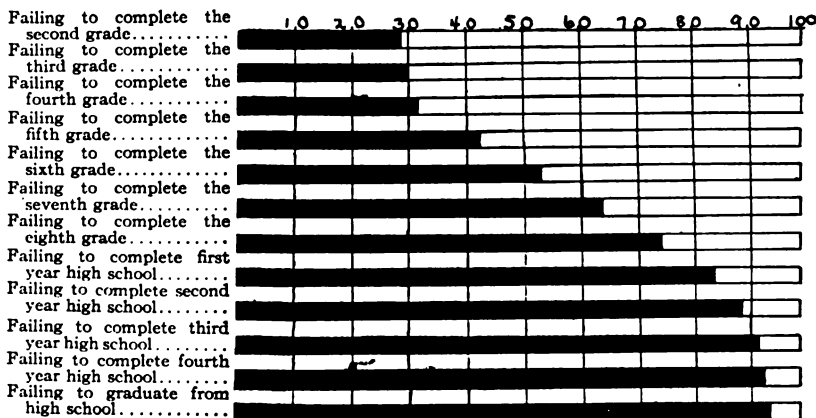


FIG. 4.—Black shows the per cent of pupils enrolled in the first grade of the public schools of Cleveland for the years 1889–98 failing to complete each of the several grades of the elementary school and of the high school.

before dropping out, the school year was shortened to thirty-six weeks—three terms of twelve weeks each, and a summer quarter correlating with the other quarters of the school year, and in which regular school work is done, were instituted. The effects of these and other changes upon the number of pupils withdrawing during the course of the school year, and hence failing to complete in the public school the work of the given grade is shown in Table V. This table shows for the year 1909, and for the year 1910, exclusive of the enrollment in special classes, the per cent of the total enrollment, in each grade of the elementary school and in each class of the high school, withdrawing during the course of the school year.

TABLE V.

	GRADES, ELEMENTARY SCHOOL.									HIGH SCHOOL.					Total, Both Schools.
	First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	Total.	First.	Second.	Third.	Fourth.	Total.	
Per cent of Withdrawals, Each Grade and Class, 1909.....	6.31	3.86	5.11	6.36	8.51	9.67	10.62	7.63	6.82	14.76	15.30	12.31	7.42	13.13	7.29
Per cent of Withdrawals, Each Grade and Class, 1910.....	2.06	.81	.74	2.04	4.55	7.36	9.01	6.04	3.29	16.42	15.95	10.35	6.48	13.80	4.22

Attaining Efficiency: Improving Instruction

An efficient city school system must not only hold children in school until they have completed the work of the elementary school, if not of the high school, but, in view of our third standard of efficiency, the quality of instruction must be of the best. There is scarcely a city school system in the country which, within late years, has not been criticised because of the quality of its instruction, particularly in the "three R's." So virulent had this criticism become in Cleveland, that, in 1905, an Educational Commission was appointed to investigate the schools of the city.

The Educational Commission, in order that it might more accurately judge of the work of the schools, gave a spelling test in the winter of 1905, of fifty words to the eighth grade pupils of four schools. The words given were such as, in the mind of the commission, children completing the common school should be able to spell. Of the one hundred and forty-four pupils taking this examination, only one spelled all the words correctly, while the combined errors of the one hundred forty-four were 1,887, or an average of 13.1 misspelled words per pupil. The Educational Commission made no direct comment upon these results, but a grade of 73.79 per cent was sufficiently suggestive to those in authority.

A careful study was at once made of the time allotted spelling in the daily program of the schools, of the character of the words taught, and of the methods used. As a result of this study, steps were taken to limit spelling to words the child ordinarily uses, to those he hears regularly employed in conversation, to those found in the other studies of the school, and to those the average citizen will find of use in daily life. A system of experiments running through the greater part of a school year was carried on to determine through actual class-room experience what words should be taught and which of these were difficult and which easy for the children. On the basis of the several different reports from each of more than 1,500 teachers, the words to be used in each grade from the third through the eighth were finally fixed upon; these were divided into two groups, principal, or difficult words, and subordinate, or easy words, and arranged into spelling lessons, each lesson consisting of ten words, two principal words and eight subordinate words. Both teachers and pupils were directed to devote most of the spelling period to the mastery of the two principal words and to give but

minor attention to the subordinate words. Reviews, particularly of the principal words, were made a prominent feature of the instruction. While no change was made in the time assigned spelling in the daily program, teachers were aroused to the importance of spelling, and an interest excited in the children to become good spellers.

On December 10, 1906, there was held what was termed the First Spelling Contest, or the first test of the efficiency of the new work in spelling. This examination consisted of fifty written and five oral words, respectively, for the children of the fifth, sixth, seventh and eighth grades; the test words for each grade were selected from their spelling work for the term. This spelling contest was followed May 24, 1907, by an Annual Contest in which

TABLE VI.

	Pupils Examined.	Number of Words.	Average Number Misspelled Words per Pupil.	Average Per cent of Efficiency.
Commission's Test ¹	144	55	14.414	73.79
First Spelling Contest....	3,148	55	7.287	86.75
First Annual Contest....	2,806	55	6.116	88.97
Second Annual Contest..	3,494	55	1.589	97.11
Third Annual Contest...	3,529	55	1.675	96.96

all the children of the four grammar grades participated. The test for each grade consisted of fifty words to be written and five words to be spelled orally, or a total of fifty-five. The words used were selected from the work of the year for the respective grade. Similar annual spelling contests were held March 23, 1908, and May 25, 1909.

Table VI shows the number of children participating in the Educational Commission's test, the number of words given, the average number misspelled per pupil, and the average per cent of efficiency; also the same facts for the first and the three annual contests in the eighth grade.

It will be observed that the average number of misspelled words per pupil in tests of fifty-five words was reduced for the eighth

¹Translated into terms of fifty-five words.

grade from 14.414 to 1.675, an average decrease per pupil for all eighth grade children of 88.37 per cent. In other words, the children taking the Commission's test in 1905 misspelled on the average 8.6 times more words than the children taking the Annual Contest in 1909.

On the other hand, the average efficiency in spelling, as based upon these tests, which it is believed were equally representative and equally difficult, was raised from 73.97 per cent to 96.99 per cent, an average increase for each child of the eighth grade of 23.17 per cent, which is an average gain in efficiency per pupil of 31.39 per cent.

That the efficiency of the work in spelling might be still further tested, there was given to all eighth grade pupils, May 17, 1909, the spelling examination which was set to the corresponding grade

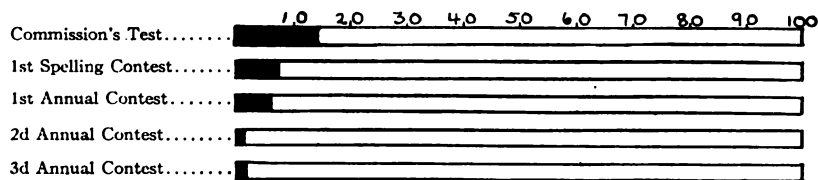


FIG. 5.—Black shows average number of words misspelled per pupil in each test from Educational Commission's Spelling Test, 1905, to Third Annual Spelling Contest, 1909.

of pupils of the Cleveland schools, July, 1858. The test consisted of twenty words. Table VII gives the number of pupils examined, the average number of misspelled words, and the average per cent of efficiency in each case.

TABLE VII.

	Pupils Examined.	Average Number Misspelled Words per Pupil.	Average Per cent of Efficiency.
Examination of 1858.....	143	5.215	73.92
Same in 1909.....	3,240	4.307	78.46

The children of 1909 were at a disadvantage in taking this examination, for the words employed were selected from the spelling

work of 1858 and were for this reason familiar to the children of that year. Notwithstanding this, the children of 1858 misspelled on the average practically one more word per pupil than those of 1909, giving the children of 1909 a better average efficiency mark by 4.54 per cent, which represents an average gain in efficiency of 6.12 per cent. In a word, this test not only furnishes evidence of increased efficiency in spelling, but also shows that the children of 1909 were better spellers than the children of 1858.

Attaining Efficiency: Minimizing the Cost

Finally, an efficient school system must educate the children of the community at a minimum cost to the taxpayer. Little attention as yet has been given to this aspect of efficiency. In consequence the cost of the same work in a given system may be very much greater in one school than in another.

Table VIII shows the variations in the per capita cost of kindergarten occupation materials for the first half-year of 1910-11, for fifty-six Cleveland schools, also the number of these schools having a given per capita cost:

The facts of Table VIII are significant, not merely because they record the variation in the cost of kindergarten occupation materials, but because they raise important questions: Why are there such variations in cost in the same system? How does the instruction compare in a school where the per capita cost is four cents with the instruction in a school where the per capita cost is sixty-three cents? What is the cost in the schools where the instruction is the best? These questions are significant because they

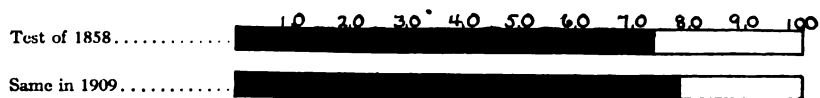


FIG. 6.—Black shows per cent of efficiency in Spelling Test given in Cleveland Schools in 1858, and in the same re-given in 1909.

supply, along with data acquired through testing the quality of instruction, the basis of determining what the cost of such material should be, of locating the schools that are spending too little and the schools that are spending too much, and hence, of reducing the cost of such materials in all schools to the lowest point consistent with the best results.

The facts of Table VIII are also significant because they suggest the lack of standards of cost in education in general, and because they indicate that a school system can only become efficient financially as similar data are collected on each kind of instruction in each kind of school, and as such facts are used, along with data derived from qualitative tests of instruction, to determine standards of cost, and to locate and eliminate financial waste.

TABLE VIII.

Number of Schools.	Per Capita Cost of Kindergarten Occupation Materials.	Number of Schools.	Per Capita Cost of Kindergarten Occupation Materials.
2	4 cents	3	19 cents
1	6 "	4	20 "
1	7 "	1	21 "
3	8 "	1	22 "
2	9 "	1	23 "
1	10 "	3	24 "
3	11 "	3	25 "
1	12 "	2	26 "
5	13 "	2	29 "
3	14 "	2	32 "
1	15 "	1	38 "
4	16 "	1	45 "
3	17 "	1	49 "
1	18 ² "	1	63 "

Attaining Efficiency: The Method

From the foregoing discussion, the main points in the method of attaining efficiency in a city school system may be readily inferred. There is involved, first, the collection of data on the number of children the school should reach, on the number of children the school is reaching, on the amount of schooling the children are actually receiving, on the quality of instruction given, and on the cost; there is involved, second, the interpretation of these facts and their use in fixing upon new administrative plans, in providing new kinds of schools and new courses of instruction, and in devising new methods of teaching; and, third, there is involved the measurement of the results attained through the new plans, the new schools, the new courses, and the new methods, to the end that the data thus derived may be used in judging of their worth and in providing for the further improvement of the system.

²Average per capita cost.

EFFECTIVE CHARITY ADMINISTRATION

BY L. A. HALBERT.

General Superintendent of the Board of Public Welfare, Kansas City, Missouri.

The Field of Municipal Charity

It is impossible to discuss the subject of efficiency in the administration of municipal charities without considering how the work done by the municipality is to be related to the activities of county and state agencies and also of private agencies. The first practical question then is, what is the proper function of the city in the field of charitable endeavor? Should the city government give outdoor relief? Should it maintain a municipal lodging house? Should it maintain institutions for delinquent children? In fact, we might ask a long list of such questions as these. Of course, it is impossible to reply to them categorically, but we may lay down the general principle that it is desirable to have the various charitable institutions as highly sub-divided and specialized as is consistent with a reasonable degree of economy. Therefore, the political unit of administration in charitable matters should be large enough so that the number of unfortunate people in each specialized class is large enough to warrant a separate institution for them. Where a city does not furnish, on account of its limited population, a large enough political unit so that specialized institutions are practical, it is evident that the charitable institutions should be developed as county or state institutions so that the larger unit will allow of finer classification. Of course this condition of having a large political unit for the basis of charitable institutions would naturally always be in favor of state institutions for the unfortunate classes, but the disadvantage in having state institutions to serve the interests of a large city is that the operations of the state are slower and more inflexible. This tendency may be illustrated in Missouri by the fact that both St. Louis and Kansas City have had to develop special institutions for delinquent children, although the state has an Industrial School for Boys and an Industrial School for Girls. St. Louis also has had to develop a local insane asylum, although the state has three. The city council, or commission, as the case may be, meets more often than the state

legislature and the need for charitable agencies becomes known throughout the community much more quickly in a compact city than it does in a state which includes a large rural population. No large city can care for its unfortunate classes efficiently if it is wholly, or even very largely, dependent for such care on state agencies. If there is an adequate state agency for any particular class of unfortunate people, of course the city should be glad to utilize such an agency and to bear its just share of the expense connected with supporting it. The same inflexibility which makes the state institutions respond too slowly to local demands is sometimes urged as a desirable consideration in connection with charitable work, because it makes the charitable agencies more free from direct political pressure or corrupting influences. This principle may be illustrated in a line of work closely related to charitable endeavor, by calling attention to the work of the New York Tenement Commission, which gets its authority from the state, because municipal political influences are considered hindrances to efficient work. In my judgment, the danger from petty politics can be eliminated from municipal affairs by independent voters' leagues, municipal bureaus of research and the extension of the civil service merit system, better than it can be evaded by resorting to unresponsive state machinery.

Sociological Investigation

The question as to how much machinery or what kind of machinery is needed to properly care for the unfortunate people of the city can only be determined by a scientific sociological investigation into the conditions of living to ascertain the extent of misery in the city and the most effective means of checking it or dealing with the particular forms of it that prevail in a given city. Therefore, I would say that no city can deal efficiently with the problem of charity without maintaining the necessary machinery for continuous research into its own social problems. It should not be satisfied with special investigations of glaring evils nor with occasional surveys of the whole field, but it should so record the life of the people that it can measure the rise and fall of poverty and of such defects as blindness, feeble-mindedness, or the changes in the number of cripples that are in the community, or even measure the volume of unemployment. It seems to me that we can never deal with the problems of poverty or any other social problem in a thoroughly scientific way without

coming to the place where we maintain a continuous registry of the entire population and enter the facts with regard to every family or detached individual. If a thorough-going system of sociological accounting showed that misery was on the increase, we would know that our industrial and economic machinery was inefficient. There can be no testing of the efficiency of our social machinery unless we have a continuous record with regard to social conditions.

A City Plan for Charity Work

It is plain from all that has been said thus far that no city can effectively care for its unfortunate classes without taking a vigorous interest in making the private, state and national agencies with which its work must be co-ordinated, equally effective with its own agencies. If there are deficiencies in these agencies, the city may be compelled to make up for them by increasing its own activities, but if the condition of inefficiency in these other agencies seems temporary, the provisions which the city makes to meet emergencies should be temporary in their nature and as inexpensive as possible. The duty of making up for the shortcomings of private agencies presents a different problem, however, from the duty of making up for a temporary deficiency in any state or county agency, because, if the need which is inadequately met by private charities is a real need, and if there is any sentiment in the community to the effect that the burden of this should be transferred from private charity to the public treasury, it should be recognized that it is just that the burden of caring for the poor should be laid upon the entire community through taxation rather than be provided for by the voluntary gifts of the generous minority. If the private charities are unable or unwilling to bear the burdens they have assumed they should reduce their plans to what they can handle effectively, and then hand over to the city, to be conducted by the city, any activity for which they are unable to provide. Civic pride or sentiment should never influence any city to start a charitable institution, but a city should only enter into such an activity when the need is such as makes it practically a necessity. It is possible to forecast the future needs of a city more or less by careful study, and it is also possible to weave the various public and private activities into a unified system if sufficient care is taken. In other words, there should be made a city plan for charitable

activities as well as for parks and playgrounds or any other form of social activity.

In Kansas City the investigation which the Board of Public Welfare must make in order to be prepared to pass upon the merits of private institutions furnishes to the board a complete knowledge of the extent and nature of the charitable work being done in the city. The desire on the part of the private charities to be endorsed by the Board of Public Welfare makes them more or less open to suggestions, as to how their charities should be related to each other, and as to what would be the wisest policy for them to pursue. This helps to give a general unity and comprehensiveness to the charity work of the city.

Subsidies to Private Charities

While the private agencies are never entirely supported by funds from the city treasury, the practice of making appropriations to private charitable agencies from the city treasury exists in certain cities. The giving of such subsidies may at first thought seem to be just and reasonable. New York City and Washington, D. C., have both had long and illuminating experiences with this custom. Dr. Amos. G. Warner, formerly Superintendent of Charities for the District of Columbia, and author of that standard work, "American Charities," took a stand distinctly against public subsidies to private charities. A report by the New York State Charities Aid Association in 1899 says:

We desire to state that a careful study of this question has convinced us that the plan of granting public subsidies to private institutions has inherent and grave dangers which it is impossible to obviate, and that no plan can be devised which will insure wholly satisfactory results. We find that appropriations of public funds to private institutions inevitably tend to diminish and discourage private charity; that the system confuses the duties of the public authorities and of private citizens and private organizations, and prevents any clear division of the field as between public and private effort; that it encourages the growth of privately managed but publicly supported charities to an unlimited and harmful extent; that although often apparently economical in the beginning, it is always in the long run enormously expensive; that it indirectly prevents a proper equipment and maintenance of the public charitable institutions; and that its permanent disadvantages far outweigh any immediate and temporary benefits that may be derived when the system is first established. (Revised Edition Warner's American Charities, 1908, page 406.)

Dr. E. T. Devine, Secretary of the New York Charity Organization Society and editor of *The Survey*, published a leading editorial in that paper for December 23, 1911, in which he takes a positive stand against public subsidies for private charities. This whole matter has been so well discussed in the proceedings of the National Conference of Charities and Corrections and other places that it is not necessary to repeat the discussion here. It may be said briefly that the consensus of opinion among scientific charity workers is that no city that wishes to get the best results for its money will provide subsidies to private charities as a permanent policy.

The Control of Public Solicitation

Most large cities, where it is impossible for the business men to have personal knowledge about all the private charities, feel the need of doing something to regulate charitable solicitation in the community. Cleveland has developed a quite efficient system of supervision over the private charities through the agency of the Chamber of Commerce. It investigates the various private institutions and advises the public as to which ones are worthy of public support, and it even takes some active steps to suppress fake charity solicitors. It conditions its endorsement upon the observance of certain standards by the private charities which ask for public subscriptions. There has been some discussion about the advisability of having this committee of the Chamber of Commerce undertake to absorb the budgets of all the private charities into one big budget and apportion the funds according to the needs of the various charities, but this plan has not been adopted. In Denver, the various recognized charities of the city have attempted for years to raise their combined budgets through one central appeal. A leading charity worker who is familiar with the charity organization in Denver comments on the plan as follows:

When Denver started on its plan of raising all the money it was to use in the city for charitable purposes through one agency, there was a budget of about thirty thousand dollars. If I am correct the experience is quite clear in showing that the increase of gifts to this central fund does not keep pace with the increase of need. I understand that twenty years ago the project covered the expenses of the different agencies. In the last annual report of the Denver Society, which I advise you to secure, it shows that in the last eleven years the proportion raised by the central agency for the different organizations dropped from forty-five per cent in the year 1900 to a little less than twenty-nine per

cent in the year 1910. In other words, the societies in this group, which number twenty-one, in the year 1900 raised fifty-five per cent of their income outside of the central organization and in the year 1910 raised about seventy-one per cent independently of their agreement with the central body.

My criticism against the plan is two-fold. In the first place as shown by Denver, I believe the thing to be impracticable. Take the Denver Orphans' Home for instance. It looks upon the subscription from the central committee as simply one of its various subscriptions, one from which it receives three thousand dollars, while it must receive fifteen thousand from other sources. On one hand it can neither keep its promise not to solicit from the community nor does it feel under any particular obligation to the central council for its financial methods. My further objection is from the point of view of the organized charity end. Every one of the societies, excepting what they call the central office, is free to go out to non-subscribers. The central office doing the work in the community of organized relief is prohibited from so doing. It results in sucking all the life out of the central office. There is no way to bring to the attention of the community the work of organization more effectively than in the pleas for specific objects such as come so often to the office of the organized charity, and with that possibility cut off, the income is necessarily curtailed and the co-operation between the central office and the community is reduced to almost a vanishing point.

In *The Survey*, September 18, 1909, Mr. Francis H. McLean, who was at that time field secretary of the Charity Organization Department of the Russell Sage Foundation, describes a plan somewhat different from this which seems more practicable. The plan is for the leading commercial organization to agree that, so far as the members of its own organization are concerned, they will all make their contributions to a central fund to be administered by their own committee and apportioned by it to the various charities in accordance with their best judgment. This would enable them practically to control the charitable program of the city and would give the public the benefit of their judgment without in any way limiting the action of those outside of their own organization and without limiting the activities of the various individual charities in soliciting money from people outside of the commercial body.

In Kansas City the Board of Public Welfare, which is a regular municipal department, is charged by ordinance that it "shall from time to time investigate as to the efficiency and merit of any organizations soliciting funds or other property for charitable purposes, and upon application therefor the Board may issue cards in such form as the Board may adopt, endorsing such organizations as worthy of confidence and assistance. And all organizations receiving such cards shall in manner and form as required by said

Board report in writing to the Board as often as required, stating the uses and purposes to which said funds or other property have been, or are to be, applied." In accordance with this law the Board of Public Welfare has investigated 59 charities and endorsed 41 of them as worthy of public support. These endorsed charities have been printed on a stiff card and furnished to all the business houses in such form as can be used for their ready reference. The unendorsed charities have most of them ceased to be. It is not only desirable to suppress fake charities but also to discourage any charitable enterprises that are unwise and to regulate those that are badly managed or wasteful, even though their motives may be good.

The practice of soliciting money from saloons, which has been carried on by certain women mission workers, has been prohibited in Kansas City by an order of the chief of police. In Massachusetts the Legislature of 1909 passed the following law which went into effect July, 1909:

An Act Relative to the Receiving of Alms in Public Places in the City of Boston.

SECTION 1. No person shall receive contributions of money, food, clothing, or other articles or things in or upon any part of the streets, parks, public grounds or other public places within the limits of the city of Boston, except upon such terms and conditions and within such times and places as may be prescribed by a license granted therefor by the overseers of the poor and approved in so far as it relates to times and places by the police commissioner of said city; and a person so receiving without a license who is unknown to a police officer in whose presence the offense has been committed may be arrested by such officer without a warrant.

SECTION 2. Any violation of this act shall be punished in accordance with the provisions of section forty-six of chapter two hundred and twelve of the revised laws, or by a fine not exceeding twenty dollars.

Under this law, the overseers of the poor granted licenses to the solicitors of the Salvation Army, in which they stipulated among other things that a thorough accounting for all funds raised or used by the Salvation Army for charitable purposes should be rendered to the overseers of the poor.

Suppressing Vagrancy

The practice of begging on the street for individual alms is prohibited in nearly all cities. But in many instances the regulation is not strictly enforced, largely because the police and the public

are not fully convinced that the charitable machinery of the city is so adequate as to make such begging absolutely unnecessary. As a matter of fact, the police should refer all beggars to the principal relief agency of the city and warn them that if they are found begging again they will be arrested, and this policy should be strictly adhered to. This policy was followed with a marked degree of success in the City of New York from June 4, 1902, to February 5, 1906. During most of that time seven police officers were detailed to work in direct co-operation with the Charity Organization Society for the express purpose of suppressing street begging. Mr. Frederick B. Jennings, chairman of the Mendicants Committee of the Charity Organization Society, said at the close of that period:

In the three years and a half since the beginning of this closer co-operation of the police department with this Society, the situation has been absolutely different. . . . Except in a few instances in which we have ourselves asked for a warning in court or for a suspended sentence, practically all who have been arrested and prosecuted on our complaint, through the officers of the Mendicancy detail, have been convicted, sentenced to six months' term, and have served their sentence. In the fifteen months ending Sept. 30, 1905, there were, as we have already written you, 1,863 such arrests, while the entire police force outside the Mendicancy detail were reported to have arrested only 565 persons on a charge of vagrancy. In the month of January of this year there were 195 arrests by the officers of the Mendicancy detail. The Mendicancy detail was abolished on Feb. 5th. In the remainder of that month, a period of twenty-four days, there were reported to have been made only thirty arrests by the police officers, and there is already a very considerable increase of street begging in many neighborhoods.

The report of the commission on "Minor Offenses in Michigan, Conditions and Remedies," appointed in 1909, gives numerous helpful suggestions with regard to vagrancy and, among other things, mentions the importance of having a mendicancy officer. In Kansas City the police department appointed an employment officer in the fall of 1910 and the number has now grown to four. They keep a card record of transient men as they discover them, from day to day, make frequent inspections of the cheap lodging houses, and keep continual pressure on all the vagrants to make use of either the employment bureau or the public quarry, both of which are maintained by the Board of Public Welfare.

If the pressure brought to bear by mendicancy officers is to be effective, no free lodgings in mission halls nor any free soup kitchens

should be permitted; in fact, the standard of the cheapest lodging houses should not be permitted to fall below where each man gets a clean bed under sanitary conditions, and the use of the municipal lodging house, where it exists, should be carefully conditioned upon the patrons complying with a definite program of work. The Civic League of St. Louis published an interesting bulletin on the problem of street begging, December 29, 1911. In fact, there is an abundance of literature on this subject for those who wish to study it in greater detail.

A consistent policy, if strictly adhered to by any city, would result in driving the professional beggars to some other city. In fact, some cities have had the deliberate policy of paying the transportation of transient paupers out of town to the next important city. This policy has made it possible, in times past, for dishonest or lazy paupers to travel across the continent wherever they pleased without paying any railroad fare. At one time, it was common to ask the railroad companies to furnish passes for charity cases, but, in recent years, there have been pretty effective laws to prevent the railroad companies from dumping the paupers of one community onto another community by furnishing them free transportation. The associated charities or charity organization societies of the country have a mutual agreement which forbids the sending of a family that has become dependent in one community into another community to be cared for unless they have relatives there who promise in advance that they will care for them. In fact, the practice of beating their way on the trains is a very common one among vagrants, and the cities of the country have the problem of caring for the hoboes, complicated by this practice of stealing rides. The able-bodied vagrants should be compelled to work and even the cripples should be provided with special work suited to the handicapped. But a strict adherence to this policy in most communities would result in so much complaint against the constituted authorities that the ordinary citizens would probably provide help individually to those who should be subjected to the community's system of discipline. Therefore, efficiency in controlling the problem of vagrancy can only be achieved when an enlightened public sentiment is developed within the community. Besides this, there should be some mutual agreement between cities which will prevent the sending of paupers from one community to another,

unless the community to which they are sent is the one to which they actually belong. It seems doubtful if we will be able to get an absolutely comprehensive and binding agreement between all the leading cities to pursue such a policy, and it is therefore important that we should have state and national laws which will prevent any public or private charitable agencies sending a pauper on to some other community without having proper evidence that that community is his rightful abode. The method of sending them from place to place is expensive and relieves them from that close supervision which might succeed in reclaiming them from their condition.

Outdoor Relief

By public outdoor relief is meant the giving of groceries or other material relief from the public treasury to families in their homes without sending them to the poor farm or other charitable institution.

The giving of such relief is fraught with various dangers. Firstly, if relief comes too easily, it destroys the ambition of its recipients and relief becomes a substitute for work. Secondly, if relief is so given the underpaid workman that it acts as a substitute for what should be gotten in the form of better wages, then the benefits of charity go to the capitalist rather than to the poor. The more of such charity there is given the lower the rate of wages becomes. Thirdly, when public funds are spent for relief, it is very natural that those receiving the aid should be grateful to those who dispense it and should desire where possible to make some sort of return for it. Such return has often been made in the form of votes or political work to secure votes for the poor commissioners' party. This has commonly led poor commissioners to dispense relief with a direct view to securing political power, and the whole fund for poor relief degenerates into a mere political slush fund.

Relief should not be given without thorough investigation of the applicants and the maintaining of good case records and thoroughly constructive treatment of the aided families by a trained social worker. Thus far public outdoor relief has practically never been administered in this way in the United States. The various associated charities or charity organization societies of the country have developed the principles of scientific relief-giving to a high degree,

and it has been an ideal with many of them that they should furnish the necessary advice to relief-giving agencies so that their relief might be administered in the proper way. Most of them, however, have developed into relief-giving agencies themselves, and there is almost universal complaint among them that their funds are not adequate to maintain a proper standard of relief. In very few instances, if any, have the city or county authorities sought and consistently followed the advice of these scientific charity workers. In some cities the public funds have been turned over to the associated charities, to be administered by them, but this scheme carries with it the dangers of a public subsidy to a private institution, although it probably offers an improvement over ordinary public outdoor relief. In Kansas City the process has been directly reversed, and social workers for thoroughly investigating and supervising the applicants for relief are now furnished freely to any of the private charities by the Board of Public Welfare, and their work furnishes the chief basis for the relief of the Provident Association. In some places, where there has been a desire on the part of public officials to proceed cautiously in the problem of public outdoor relief, certain classes of cases have been selected for pensions. The last legislature of Kansas passed a law providing that the county commissioners might grant pensions to permanently disabled people. The last Missouri legislature passed a law establishing pensions for widows and women whose husbands were in prison, the rate being based on the number and ages of the children. The application of the law is restricted to Jackson County, the county in which Kansas City is located. England has recently established an extensive system of old age pensions. The almost universal inadequacy of the funds of private relief societies to maintain a decent standard of relief makes public outdoor relief a practical necessity in large cities. The report of the New York Commission on Congestion advocates a limited application of the system of public outdoor relief in that city, although that city has previously been held up as a conspicuous proof that it was practical and preferable for a city to get along without public outdoor relief. The discussion of this proposal for New York to enter upon some outdoor relief, which was contributed by various leading charity workers to *The Survey* of March 25, 1911, shows that there is a trend of feeling even among the best charity workers in the direction of an effort to solve the problems of the correct administration of

public outdoor relief, rather than to follow the policy of a total abolition of public outdoor relief, if indeed that policy were possible.

Preventing Destitution

There is no doubt that the chief attention of charity workers should be directed toward the prevention of destitution. In fact, if you consider the main cause of destitution, it can be shown how they can all be forestalled if proper plans are set on foot. Among the leading causes may be mentioned unemployment, widowhood and desertion, sickness and accidents, old age, low wages, and the monopolizing of the natural resources.

Unemployment can be met by employment bureaus, the establishment of public works where necessary and by unemployment insurance. Widowhood can be met by life insurance, widow pensions and the safeguarding of living husbands. Desertion can be greatly reduced if society will pay for relentless prosecution. The sickness of to-day is, much of it, preventable. Sick benefits should be provided for along with other daily necessities by membership in benefit societies. Accidents should be largely covered by workingmen's compensation laws and compulsory insurance. Old age pensions should be arranged by law, probably on a basis where the people would provide for them by contribution during their working years.

A number of states have machinery for the arbitration of controversies over wage scales. England and Australia have laws establishing boards with power to fix minimum wages. Wisconsin and Massachusetts have had commissions investigating the feasibility of such plan in their respective states, and the Massachusetts Commission has already reported in favor of the plan. The adoption of such a plan is one of the chief planks in the platform of the National Consumers' League. The tendency of the times is to attack the monopolizing of the natural resources through government regulation of corporations. It is also very interesting to note that both the report of the Commission on Congestion appointed by Mayor Gaynor, and the report of the Committee on Housing, adopted December 11, 1911, by the Pittsburgh Civic Commission, recommend a modified form of single tax as a means of improving the conditions of the poor.

In some eighteen different cities there are free legal aid societies. Kansas City has a Free Legal Aid Bureau as a regular public muni-

cial agency, to prevent the poor from being defrauded out of their just dues. During the first eight months of its existence it handled 2,314 cases at an average cost of 50 cents per case and collected \$6,046.46 for the poor. Provident loan agencies or public pawnshops are a part of the municipal machinery in some foreign countries, but have not yet been adopted in any American city, so far as I know, although they are being operated successfully by private enterprises in various cities.

By laying emphasis on these remedies outdoor relief can be reduced to a very low stage.

Social Service Work in Hospitals

A general hospital is a part of the equipment of nearly every city for caring for the sick poor. The hospital is, in a sense, a health provision for the people, but it is also a charitable institution. The treatment of individuals is not effective if they cannot secure the proper diet, fresh air and clean living quarters when discharged. The recovery of the people may even be hindered by unhappy social relations between the members of a family, or between a man and his neighbors. These conditions can only be remedied by the aid of a good social worker. There is always a question also as to who is entitled to free treatment. This should be determined on the same basis as other charitable relief. Dr. Richard C. Cabot of Boston has developed a social service department in connection with the Massachusetts General Hospital. The success of his experiment has been conspicuous and it has become an example to all charity hospitals. He began in October, 1905, with one social worker. He said, in June, 1911—"We now have nine paid workers and under these we have twenty-five volunteers. . . . As our work has gone on, it has gradually divided itself into a number of departments." He has named and described departments for tuberculosis, for nervous people, for the problems of sex, dealing particularly with the problems of unmarried mothers, and for teaching hygiene.

Institutional Problems

I have not attempted to say exactly what institutions any city should have, but it is inevitable that every city will have some. Whether they are hospitals, infirmaries, insane asylums, children's homes, or any other sort of institutions, they will all have certain

problems which are common to institutional life. The arrangement, construction and sanitation of buildings for such purposes have a great deal to do with their efficiency, but those problems are sufficiently discussed elsewhere and it is not necessary to embody them in this article. The same is true of the problem of diet. If the object of these institutions is to relieve human misery, their work must be tested by their success in serving this purpose. Some of the worst problems in all institutional life are connected with the matters of the employment of the inmates and of the development of their social life. People who lead a useless and monotonous life are bound to be unhappy. It is not enough that the inmates of charitable institutions should merely have their physical wants provided for. They should all be furnished with occupations suitable to their capacity, not only as a means occupying their time but so that they may contribute toward their own support as much as possible. Besides this, they need amusement and recreation and, where possible, they should be given good educational advantages. Outdoor life is preferable where it can be supplied. The limitations of space will not permit me to discuss specific occupations, but the heads of all institutions should be required to give attention to these problems.

The problems of financial management and proper systems of accounting are of great importance. The heads of all departments or agencies engaged in charity work should make frequent reports and these reports should show gains and losses, comparative costs between the various months and years of the institution itself, and between itself and other similar institutions; these comparisons to be based on a standard unit of service. A very full and able discussion of tests of efficiency of this kind may be found in Dr. Wm. H. Allen's book entitled "Efficient Democracy."

Efficient Workers

After all has been said and done to secure proper plans and machinery for doing charity work effectively, the result cannot possibly be achieved through any means unless the people employed to carry on the work have the ability and training to do their work and also have a kindly spirit in their hearts. In order to secure this kind of people the salaries paid to them must be large enough to enable them to maintain a good standard of intelligence and comfort. They must be selected because of their qualifications. Mere con-

siderations of political expediency cannot be given any weight. I believe that a civil service merit system of the right sort is the best agency for securing this class of workers. Such a system would be quite exacting in its standards of admission to the service so that it would be impossible for anybody to get in merely on account of his political connection. The system ought to give the heads of departments or the proper supervising boards great freedom to discharge any employees who are not satisfactory to them. If people should happen to be discharged for political reasons, which of course they ought not to be, there should at least be a guarantee that their successors must be qualified people. I have heard various complaints from heads of departments in different places where civil service rules prevailed, to the effect that it was impossible for them to get rid of dead timber. In Kansas City the civil service rules are quite liberal in granting power to the heads of departments to discharge any employees for any reasonable cause. Some have been discharged from the department with which the writer is connected, for the sole reason that they were inefficient, and no difficulty has been experienced in making the discharge effective. I do not believe that the difficulties which have been pointed out in other places are an essential part of a strict merit system. Those who are accepted as social workers in any city department should not only be required to have some knowledge of social work but they should be required to study continuously, just as public school teachers are required to attend institutes and do a certain amount of continuous study in connection with their work.

Co-ordinating Social Betterment Agencies

The problem of the efficient administration of charity cannot be entirely divorced from the consideration of how the agencies for dealing with the poor are to be related to the machinery for handling the sick and the delinquent. The care of the poor, the sick, and delinquent are interrelated problems. People who are too poor to secure a reasonable standard of living become sick, or people who are sick lose their earning capacity and become poor. People whose resistance is broken down either by poverty or sickness become delinquent, and criminals often become poor through shiftlessness or sick through vice and dissipation. Because of this interrelation it is important that the agencies dealing with all these classes should be carefully

co-ordinated. These classes are also closely related to the problems of bad living and working conditions. They create bad conditions, on one hand, and bad conditions tend to break down normal human beings and throw them into these classes, on the other hand. Therefore, the agencies which are intended to improve bad living and working conditions also need to be closely related to the agencies which deal with the unfortunate classes.

In every large city there are at work charitable agencies, correctional agencies, tenement house commissions or other machinery for improving housing conditions, agencies for dealing with industrial problems, such as a bureau of labor statistics, an employment bureau, and a department of factory inspection. There are other agencies working at the health problems of sanitary inspection, medical inspection of schools, the prevention of infant mortality, the control of contagious diseases and the maintenance of hospitals and dispensaries, etc. There should be added to this category the agencies maintained by the school authorities for preventing truancy and the cure of incorrigibility and backwardness. All these must be woven into one united system. As a first step in this direction, I would suggest the maintenance of a common registry of cases, and a mutual exchange of information. In fact, no registry will be large enough to serve the purpose of all these agencies, excepting a registry of the entire population, such as I have advocated heretofore in this paper. The Boston Associated Charities has developed a very remarkable registration bureau, or "Confidential Exchange," as they prefer to call it, for the use of social betterment agencies. It is quite complete so far as the registration of cases by private agencies is concerned. It also contains the registry of cases from the overseers of the poor and the State Board of Minor Wards, but makes no attempt to record criminal cases, school truants, or a number of the lines of data proposed here. The only public attempt at maintaining a registry of any definite portion of the population, so far as I know, is the attempt in New York City to maintain a continuous registry of the school children, which effort is described in *The Survey*, of February 17, 1912. In order to keep the general registry up to date, it will be necessary to keep some track of the movements of the people. This could be done with some degree of success by requiring reports from real estate and rental agencies and by keeping track of new buildings through the building department, but the population would have to

be checked over periodically in order to make the necessary corrections. But this is nothing more than is being done separately now, by the school census takers, the assessors, the election commissioners and the makers of city directories, so that this plan really involves nothing more than the proper systematizing of agencies already in existence in most cities. I do not believe that any scheme which would seem to restrict the movements of the people, such as requiring them to get permits before moving, would be acceptable in the United States.

I have attempted in this article to give only a general outline of the provisions that seem to me necessary for dealing effectively with the charitable problems which exist in all cities.

EFFICIENCY IN COUNTY GOVERNMENT

BY OTHO GRANDFORD CARTWRIGHT,

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"It is one thing to know that an evil exists and to denounce it. It is quite another thing to put your finger on the cause of it, and it is still another to devise a remedy."¹ In diagnosing the evils of county government, I shall first put my finger on the causes, then announce, not denounce, the evils, or at any rate some of them, and lastly prescribe remedies which are not altogether my own devices. Therefore, my topics will be, causes of inefficiency, specimens of inefficiency, and methods of efficiency.

Among the chief causes of inefficiency and its resultant extravagance in county government are the following:

1. The continued use of methods and machinery of administration devised long ago for sparsely settled farming communities but now antiquated and inadequate for the needs of greatly advanced and rapidly growing towns, villages and cities. Frequent attempts to prop up these tottering old institutions by special laws have turned them into patchwork.
2. The political choice, for public office, of men untrained in administration and unskilled in interpretation of the law.
3. The tendency of such men to follow precedent rather than statute in the administration of their offices, and consequently to commit unwitting errors and make important omissions.
4. The lack of diligence on the part of the citizen body in letting official representatives know its will in matters of governmental policy, a cause by no means confined to rural communities.
5. Interest excited by public scandal concerning office holders is mainly sensational. Too much such sensation deadens civic pride and blocks genuine improvement.

As a composite result of these and other causes there are found, particularly in the more populous and wealthy counties, complex and confusing masses of legislation, general and special, affecting

¹ Hon. George Sutherland, Congressional Record, July 11, 1911.

the different communities in varying degrees. There are also found:

Inadequate, unsatisfactory and wasteful taxation systems.

Inadequate and antiquated systems of accounting for public funds.

Puzzling and fragmentary methods of reporting public business.

Violations, evasions, misinterpretations, and neglect of the laws, by public officials—many of such irregularities unintentional.

Unnecessary sickness and deaths from preventable diseases.

Hundreds of needless officials in public service at the expense of the taxpayer, reduplicating one another's functions in various ways.

Waste and extravagance in many administrative departments.

Capable officials compelled to interpret very freely or openly to depart from the law, or even to obtain special legislation to enable them to achieve efficient and economic service.

No plan of constructive statesmanship. Instead the motives of official selfishness, home glorification, and private pocket prevail.

In the turbulent days of medieval politics the only force that could preserve order and discipline rebellious states was the church. This had no legal existence at first, but worked up an organization that controlled the world. Politically the New York State counties² and those of other states following the general plan of the middle eastern states in county development, resemble that medieval condition. The only man competent to issue orders to county officers that they shall do thus and so, or, failing to obey, shall be disciplined, and competent to enforce those orders, is that unofficial but most powerful being, the county boss. The officers themselves have little power or influence one over another. There is no central executive in the county, but, instead, a great many practically independent departments, whose functions are somewhat confusingly interlocked by the complex requirements of county, town, municipal, public officers and various other laws, and in the larger counties by many special acts for particular municipalities. Many of these are conflicting and practically impossible to reconcile.

² The discussion in this paper relates in general to counties of this type. In the South, where the Virginia type of counties prevails, the entire governmental structure is different. Many county systems show great advances over the type of counties described here. The writer has most frequently in mind, throughout this article, the New York State system of counties.

There is an official executive head of all the counties in the state, namely, the governor, but his function is not directive; it is disciplinary only, and called into play only for the removal of officers guilty of gross misconduct. The governor appoints a large number of state officials who might be called the state ministry. Each one of these has some general powers over county affairs, and a good deal of direct control over some particular county official. Note the following illustrations:

The state excise commissioner has general supervision of the collection of excise taxes, and direct control over the county's deputy commissioner of excise. He may examine the county treasurer's accounts with reference to the excise fund.

The state board of charities controls the county's care of its paupers and insane and has direct supervision over the county superintendent of the poor.

The state commission of highways may reject or approve plans of the county superintendent of highways and remove him from office. The county superintendent is appointed by the board of supervisors who are elected by the local townships, and the supervisors fix the county superintendent's salary, and direct most of his activities. His responsibility, therefore, is a very much divided one.

The county commissioner of elections is appointed by a board, composed of county judge, surrogate, district attorney, county clerk and sheriff. His salary is controlled by the board of supervisors. His duties are regulated by the election law, and he is responsible to the state board of elections.

The county clerk is elected by the people of the county. He is clerk of the county court and of the supreme court, when in session in his district, and is subordinate officer of the secretary of state, to whom he has to make various reports. He also has to report to other state officers and bureaus concerning various matters of the county business. In Westchester County he receives as large a salary as the county judge, larger than the surrogate, or the district attorney, larger than his superior, the secretary of state, and equal to that of the governor of the state!

The county treasurer stands in a similar position, but is responsible to the state comptroller for the correctness of his accounts, and for statistical information.

In New York State school commissioners no longer exist. School superintendents, whose number varies according to the population of the county, are elected by school directors, of whom the people of each town elect two. These superintendents may be removed by the commissioner of education of the state. The state pays these superintendents a fixed salary, which is moderate. The county may pay an additional sum by vote of the board of supervisors.

In many county systems there is no department of health. It is a strange contradiction that this function of government which, in state and local municipality is invested with the most mandatory powers, is entirely absent from county administration. It is one of the best of arguments for the entire elimination of the county as a needless political unit, and shows the fallacy of the bugaboo cry for "Home Rule." No one objects to orders from the state commissioner of health. No one objects to state supervision of excise, nor to state control of highways, nor to state direction of schools. Why not state collection of taxes, and state care of the poor, state hospitals, state regulation of all major activities?

As a matter of fact, however, there ought to be some sort of central health authority in the larger subdivisions of the state, whether county or assembly district, or what not, because health laws and ordinances are matters that cannot be enforced properly except by a man on the ground. A county officer,³ with authority to compel uniform administration among the local health authorities, is better than a lot of local officers unregulated.

These examples are sufficient to show the labyrinthine meanderings of departmental responsibilities or irresponsibilities.

In the foregoing examples, no mention is made of the many special statutes, or the many special requirements of the general statutes, that complicate and intermingle the functions and responsibilities of the various officers. The mere citation of such acts, without reference to their substance, would fill many pages of this volume.

The undue multiplicity of local officials and the overlapping of their functions may be illustrated by the administration of taxes. The township is the ordinary unit of taxation. If there were no variation from this, the matter would be much simplified. But there are frequently more villages than townships in a county. Some of

³ Some of our states provide for a county commissioner of health.

these lie part in one township and part in another, or perhaps in parts of three townships. Each village levies its own tax. The whole state is divided into school districts, each levying its own tax. Sometimes these overlap both village and town. Superimposed on these three series of districts are special districts for fire protection. Overlapping these are water supply districts, lighting districts, garbage removal districts, and various other kinds of districts. There are township assessors, village assessors and school district assessors. Each set makes, for the purpose of taxation, a separate valuation of the property within his district. The same parcel of land may be assessed at \$3,000 on a township roll, \$5,000 on a village roll, and \$2,500 on a school district roll.

There is a school tax collector for each school district, a village collector for each village, a township collector for each town,⁴ an excise collector for each excise district, ordinarily the whole county, and a water tax collector. The collectors for towns, villages and schools serve for ninety days only, and then the collection is turned over to some other officials, the supervisors, the village treasurer, the county treasurer. Westchester County has two hundred and twelve collectors of taxes. One central receiver and twenty deputies would be much more efficient.

One of the greatest causes of inefficiency is the procedure ordinarily provided bylaw for the audit of claims against the county. Any office or department may order what supplies and services it needs, or which its head thinks it needs, and the bills are presented to the county board of supervisors for audit. This is a good enough system in a small county where taxpayers are few and are conversant with what the county is doing. But in a more populous and wealthy county, it is impossible either for the taxpayers to follow the details of the county business or for the supervisors themselves to know what bills should be allowed and what rejected. Moreover, there is no advance appropriation for county audits. The bills against the county are never classified and registered as charges against departments. Instead, the bills are allowed to run on for a year, then footed up, and the sum total is raised by tax in the annual budget. The county is always paying last year's bills. The treasurer cannot tell at any time, neither can any auditing committee, the amount of

⁴ Here again some of the western states excel; e. g., Iowa, Michigan, Indiana, etc., have all their taxes collected by the county treasurer—a great simplification of a problem of plain finance.

outstanding encumbrances against the audited bills account. So the account is never closed, but runs on and on, world without end. In counties where there is a county comptroller or auditor this condition is not so bad. Such officer usually has power to govern accounts and audits and can keep a sharp watch. But such counties are few in the East. In many of the western states the county auditor is a regular functionary.

But cannot the public control the allowances of these unclassified and endless claims? No, the public has no more idea what they are for than has the Gaekwar of Baroda. A very general law requires the publication of the list of all these vouchers. They are usually published in the following form:

Voucher Number.	Claimant.	Purpose.	Amount Claimed.	Amount Allowed.
2347	John Doe,	Services to County,	\$1,000.00	\$1,000.00
2348	Richard Roe,	Supplies,	672.00	672.00

Who is John Doe? What services did he perform? At whose order? What is a proper value for such services? Was he overpaid or underpaid? Were the services needed? Could not that \$1,000 have been devoted to supplying a greater need than the above services? The same queries may be made regarding Richard Roe and his supplies. There are no answers to these questions. If the taxpayer follows the list of bills through and tries to determine what his money is being spent for, his ultimate destination will be a padded cell.

The maddening insufficiency of public records is not confined to accounting reports. It is characteristic of nearly all official county and local publications. The taxpayers ordinarily can learn nothing of details of public business of the county. The county budget is passed with all sorts of expenditures hidden under the item "County Audited Bills." It is never submitted to the public for discussion. The making of the ordinary county budget is one of the most unscientific governmental operations in the universe.⁵ About the only course open to the taxpayer seems to be to pay his taxes, whatever they are, and forget it.

⁵ Indiana has a state board of accounts and a county auditor, who enforce an advance itemized estimate, from each officer and department, of the expenses for the ensuing year. Appropriations are based on such estimates.

In many counties the public records, except county clerk's records, are often in wretched condition. The records in some townships are tied up in bundles and piled into boxes. Some of them are mere masses of jumbled papers, covered with dust and mould, kept in barrels or bureau drawers, or under the spare bed, or any convenient place. There are great gaps in the records, in some instances the records of several years at a stretch are missing. Town officials have been found who have burned quantities of records to *get rid* of them! "What's the use o' keepin' bundles of ole papers that come f'm 'way back 'fore the Revolutionary War?"

These features are due to the election of untrained officials. "How are you going to avoid untrained officials in country offices?" We cannot do so. But we can have *the state send trained officials at intervals to teach local officials their duties and to see that such duties are properly executed.*

How can we increase the efficiency and decrease the cost of county and local administration? Perhaps the greatest criticism of the operation of the county government as a whole is that the entire administration has no plan, never did have a plan, and apparently never will, until the citizens demand it. By plan, I do not mean the schemes and plots of the political bosses, nor the intrigues of the politicians, nor the individual proposals by good citizens for specific improvements. The boss has a plan. It is to have at his disposal and control as many big salaried jobs as possible to hold his lieutenants in line, and as much official advertising as possible to give to the newspapers an incentive to be friendly. His agents in the board of supervisors work with that plan in view. The taxpayer is held in contempt, and his protests are unheeded. He has nothing to do with the conduct of office, forsooth. Let him pay his taxes and shut up. Such is democracy in American county government.

Individuals and groups put forward plans in generous numbers for particular improvements, but there is no consistent plan for the whole administration. All is ragged and every interest pulls in a special direction. It is characteristic to select the one or two things whose advocates are the strongest, and devote the county's energies and funds to those and neglect other things.

A proper plan would be developed by first examining minutely into the communities' needs, making a complete list of those needs in

the order of their apparent importance, then studying them carefully, counting the cost, and spreading the budget allowances evenly over the whole.

In some states, e. g., Massachusetts and Ohio, there are systems closely akin to a commission form of government for the county. In these states the efficiency of county administration is much more marked than in counties where the New York system prevails. Undoubtedly the greatest efficiency and economy would be brought about by centralizing the government of the county in the hands of a board of not more than five elected commissioners, the abolition of the county board of supervisors, and the appointment, by the commissioners, of all subordinate officers, upon a basis of capacity. The commission should have power, under proper regulation, to remove from public office for incompetency any of their employees. The commissioners themselves should be controlled by electoral recall.

It is not necessary to describe here the commission form of government with the short ballot. It is too well known. Its applicability to counties is perfect. The strongly fortified political party system with the boss at the head stands in its way. It would put the boss out of business. Therefore, he will usually oppose it. When it is proposed, he sets up the cry "Revolution," "Treasonable attack on the institution of our forefathers," "Patriotism overthrown;" and such outcries seem effective.

I do not believe in tearing down old institutions merely because they are old. Much less do I believe in propping up tottering old governmental machinery by awkward, cumbersome and complex devices that are wasteful and inefficient. I believe rather in building new and strong institutions, adequate to the growth and exigencies of the present, with provision for future expansion, before there is a general collapse of the old.

Without the revolutionary measures that might be necessary to establish commission government in counties, without introducing new political theories, is there a way to bring about efficiency and economy in county administration under present laws? The answer is ready. *Prepare a plan for the existing system*, whatever that system may be.

Since the whole plan of an administration depends upon budgetary control, the most direct method of arriving at a wisely constructed plan is to design and operate a wisely constructed budget. The

experience of the New York Bureau of Municipal Research in this respect seems to furnish most valuable guidance to such an end. The following outline of method is compiled largely from the work of that Bureau.⁶ It is adaptable to any tax levying and tax spending community, from a school district to a state entire. It seems particularly to meet the needs of the county.

PLAN TO SECURE EFFICIENT MANAGEMENT BY SCIENTIFIC BUDGET MAKING.

I. THE BUDGET A BASIS FOR EFFICIENCY.

- (I) Neglect of budget making prevalent in nearly all American municipalities.
 1. Citizen does not know.
 2. Citizen purposely kept in dark by politicians.
 3. Citizen does not care until taxes become due—then it is too late.
- (II) Importance of properly constructed budget.
 1. Education in citizenship.
 - (1) In community needs.
 - (2) In government efforts to meet them.
 2. Promotes understanding of public service, and therefore
 3. Promotes *efficient* public service, because people *know*.
 4. Tells whether you get what you pay for.

II. IMPORTANCE OF PUBLICITY.

- (I) Publication of full details of public business absolutely necessary.
 1. Public plans, showing all contemplated operations and achievements of every department.
 2. Public records, showing
 - (1) Exact conditions of public funds at any time.
 - (2) Exact detailed cost of any department or function of government.
- (II) The two sorts of publicity usually supplied (neither is satisfactory).
 1. That originating with private citizens and newspapers.
 - (1) Built on scraps of information, and therefore
 - a.* Omitting important elements, or
 - b.* Wholly misrepresenting policy.
 - (2) Often giving undue praise or blame.
 - (3) Often scandalous attack on personalities.
 - (4) Not always enlightening or creating healthy interest in civic betterment.
 2. That furnished by official reports.
 - (1) Often doctored to cover faults.

⁶"Making of a Municipal Budget," Bureau of Municipal Research, New York City.

- (2) Usually incomplete and confusing, leaving the citizen helpless.
 - e. g., The ordinary reports of a municipal treasurer.
 - No statement of assets and liabilities.
 - No cost accounting.
 - Each fund account full of transfers.
 - Impossible frequently to tell even the net receipts and disbursements of a fiscal accounting period.

III. ESSENTIAL PRINCIPLES OF BUDGET-MAKING.

- (I) Obtain knowledge of community needs.
 - 1. Study community government.
 - (1) How many separate departments?
 - (2) Functions or lines of activity of each.
 - a. What is each trying to do?
 - b. What purposes has it in view?
 - c. What services does it require?
 - (a) Men employed.
 - (b) Compensation.
 - d. Are they necessary for community progress?
 - 2. Learn what community needs the government does not meet.
- (II) Cost of supplying such needs.
 - 1. Study public records, original bills, etc., to learn
 - (1) What services community actually gets.
 - (2) What it should justly pay therefor.
 - (3) Total cost of each line of service as rendered.
 - 2. Learn what an enterprising private business would pay for similar services.
 - 3. Estimate what unfilled needs would cost.
 - 4. Publish clear statement of the results of such study.
 - (1) Cost reports.
 - (2) Graphic charts and representations.
 - (3) Comparison of cost of each detail for several years.
 - 5. Determine units of service and of pay.
 - (Compare present hodge-podge of county salaries.)
 - 6. Determine standards of cost for supplies.
- (III) Appropriations to be functionally segregated.
 - 1. A specific fund for each department.
 - 2. A specific apportionment of such fund for each detail of that department.
- (IV) Install departmental and functional cost and fund accounting, with
 - 1. Central accounting control.
 - 2. Prohibition of transfers without specific authority.
 - 3. Supporting systems of vouchers definitely locating responsibilities.
- (V) Provide accurate records of service, improvements and supplies, obtained for the expenditure of public funds.

- (VI) Prepare a budget exhibit showing the entire plan of the administration.
- (VII) Open the budget to public discussion before passing it.

This outline is, of course, difficult for individual citizens to put into effect. But a public welfare committee of such citizens, or any live civic organization or club may bring it about. Any citizen has the right to examine all public records. The results of such examinations must determine the course to be pursued.

Efficiency in county government is quite possible. But a community of the holiest of men cannot count upon it, unless they set about obtaining it. Any community of average citizens can get it, if they will.

A PROPOSED MUNICIPAL ADMINISTRATIVE CODE FOR NEW JERSEY CITIES

BY D. O. DECKER,
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A municipal administrative code is conceived of as a document of legislative enactment providing the procedure which must be followed by city officers and employees in the exercise of their public functions. It would express in writing such minimum standards of operative efficiency as a business man would require in his private business. It would deal, not with the selection or election of the officials who are to perform the duties, but with the methods they shall employ in discharging them.

Such a code should be a separate document from the charter. It should present an orderly arrangement of all the procedure now contained in the city charter, together with such procedure found in the ordinances as is of a permanent character. Being intermediary between the charter and ordinances, it would be more subject to change than the charter, and less subject to change than city ordinances. The latter should contain only matters subject to frequent change, such as police regulations, license fees, etc. This elimination of procedure from the charter will lessen the necessity of charter amendment and permit that document to attain a permanency which will secure for it a proper measure of dignity and stability.

The code should be a complete manual of the procedure to be followed by each city official in administering the functions assigned to him by the charter or by other legislative acts. It should provide the procedure to be followed in the formulation of the budget, purchasing of supplies, letting of contracts, regulation of city advertising, construction of public improvements, issuance of bonds or corporate stock, establishing of sinking funds, recording and reporting of municipal transactions, issuance of warrants and all other matters of business procedure. A code might be so drawn that it automatically insures constructive city planning before expenditures are authorized.

One of its fundamental purposes should be to make available facts from which city officials may determine upon their program for each fiscal year.

Necessity for an Administrative Code

No American city has to-day, in one document, a complete codification of its administrative procedure and methods. To ascertain the procedure which should be followed in performing many administrative acts, it is necessary to search the general laws of the state, the city charter and the local ordinances. Not only does this tend to uncertainty among city officials as to what may be required of them, but it seriously handicaps the public in its dealings with the city. In contemplation of law, the private citizen is presumed to know the exact limitations of the authority of those who represent the city in its contractual relations. If these city officials assume authority not given by law, he deals with them at his peril.

A code, if only codifying existing requirements of procedure, would well justify its enactment. When properly drafted, it should go further and include matters of business procedure which are not usually found either in general laws, charters or ordinances, but are left to be settled according to the discretion of the official who happens to be in power.

To better illustrate how essential requirements of procedure and methods may be, a comparison of the experiences of two cities, each governed by commission, and each facing similar problems of community need, will be of interest. The commissioners of both cities are intelligent men and desirous of proving efficient administrators. The success of commission government in the one city has been so marked that the city is pointed to as proof of the merits of this form of government. Commission government in the other city may at best be termed only moderately successful. In the first city, both the program and routine of administration are based on known conditions of finance and on the story told by detailed records of expenses. In the other city, administrative action proceeds, not upon known facts, but upon an optimistic hope that the program and methods adopted may prove beneficial. An unnecessary expenditure in the first city may be at once ascertained from an examination of the accounts and records. In the second city, only by detailed analysis of expenditures in every instance, can a commissioner ascertain the significant facts even in his own department. The reason for this difference in the administration of the two cities will be found in the fact that three years before the first city adopted commission government it installed a most excellent system of municipal accounts.

This system has become a part of the city administration. It affords information from which adequate plans for both present and future needs can be formulated.

We are justified, then, in assuming that no community can provide for efficient and economical local government until it has provided for the installation of an adequate system of municipal accounts through an administrative code or by similar legislative enactment. The installation of proper accounting methods, while it gives a basis for efficiency tests and business methods, does not insure their adoption. The administrative code should meet this need and require the adoption of such business methods and efficiency tests as practical experience has shown to be necessary. For example, a city purchasing supplies through a central purchasing agency will probably obtain a lower unit cost on supplies than is possible where each department purchases for itself. The code should require all purchasing to be made through one bureau under prescribed business methods.

A comparative analysis of the procedure obtaining in various cities, discloses the fact that there is but little uniformity in municipal administrative methods. A similar analysis of the methods employed by large private corporations shows a decided similarity of methods employed and a positive uniformity in the fundamental principles of procedure.

Practicability of a Code

No adequate reason has ever been advanced why the business methods of a municipality cannot be made equally as efficient as the methods used in private enterprises. The success of business methods, when adopted, has been marked. By standardizing specifications for the purchase of supplies, the general practice among large business corporations, the City of New York has saved in one year a half million dollars. The problem of formulating an administrative code resolves itself into the feasibility of drafting a code of methods and procedure which will establish these uniform standards of business efficiency in municipal administration. Many laws of mandatory nature have signally failed in their attempts to legislate public officials into either honesty or efficiency. But the failure is often attributable to definite faults in the drafting of the laws. To be successful, mandatory laws of this character should be constructive

in nature rather than restrictive. The administrative code should prescribe only those methods which have a tried and known value, and should be limited to requiring only the essentials of efficient administration.

Though there may be good methods and bad methods of transacting the business of a municipality, there is also a best method. The best method for one city is usually the best method for others and it is for this reason that such a code may apply to all the municipalities within a state. In fact, a code of state-wide application has inherent advantages. It enables the public to be better acquainted with municipal procedure because of the certainty that the methods and requirements in effect in one city will be those in effect in all cities in the state. If a doubtful point is construed by the courts, the one decision clears that point of procedure for the entire state. Furthermore, it encourages outside bidding on city contracts, and gives added security in passing on the legality of bond issues.

Preparation of a Code

The drafting of a code cannot wisely be attempted until a careful study is made, not only of existing needs, but of existing legislation. It is essential to examine first the state constitution, the general laws and the city charter and ordinances. The constitution and court decisions construing it must be examined to determine the constitutionality of each proposed code provision. For example, a code to be constitutional must provide for proper notice to property owners before any steps may be taken which subject their property to special assessments or liens. By constitutional provision in most states, no property can be taken under the right of eminent domain, unless it is to be used exclusively for public purposes. This prevents code provisions for the condemnation of more property than the city may require for immediate needs, although it may be highly desirable that the city by such a purchase may avail itself of increased valuations due to public improvements, to better transit or to the construction of civic centers.

Three reasons suggest themselves for the necessity of a careful analysis of the general laws of the state and the city charter and ordinances before drafting an administrative code. First: So far as is possible, existing procedure should be re-enacted in the code. This will cause less confusion in following out the code provisions

and make the code more acceptable to the municipalities which will be governed by it. Second: Language which has been construed by the courts has a definite advantage over new phraseology. Such language should be used wherever feasible, as it insures the proper interpretation of the new enactment. Third: Existing forms of local governmental organization must be considered, that the code may provide procedure which will be in harmony with the organization of the city government, its various departments and offices.

If a repealing clause is added to the code, the schedule of laws repealed must be most carefully drawn, that it may leave in force all non-conflicting laws, but insure the repeal of all laws which might permit a choice of procedure, where such is undesirable. As has been suggested, much of the procedure of the code must be drawn from business and administrative experience. Very few satisfactory precedents for this will be found in legislative enactment, and in formulating such provisions the draftsman must begin *ab initio*.

Subjects Properly Regulated by a Code

It may be well to consider a few subjects of municipal administration which may properly be regulated by an administrative code.

(1) *Budget Making*.—The procedure for the proper formulation of a municipal budget is a matter of the greatest importance and is one that should be made definite. These provisions should include public hearings on a tentative budget based upon examination of detailed and classified requests from each department and office. The budget in its final form should be required to show the allowances grouped by specific functions. The appropriation for each department or office should be placed under the proper function and these appropriations again sub-divided as to the object of expenditure. The last classification, for example, will show separately the appropriations made for personal services, supplies, repairs, replacements, etc. By summarizing the appropriations throughout the budget for any one of these classifications, the total allowance made for any kind of service or expense can be accurately obtained. A comparison of appropriations and results for a year with those of prior years, is of great interest to the taxpayer and necessary to scientific budget study.

(b) *Public Improvement Authorizations*.—It is entirely practical to require that a program for city improvements be formulated.

This program should include, not only the improvements for the ensuing year, but also a tentative program for succeeding years. It is also feasible and desirable to have provisions requiring that all sewers, water mains and service conduits shall be laid in a street before the paving is begun. Too often we witness the sorry spectacle of tearing up a sound and serviceable sewer, because newly constructed laterals have thrust upon it more sewerage than it was designed to carry. This may be eliminated by forbidding the construction of any sewer until a plan has been approved for a complete and adequate system draining the entire sewerage area.

(c) *Purchases*.—Both cities and private corporations depend upon competition to reduce their contractual expenditures to a minimum cost. But while this method employed by private concerns has been generally successful, employed by the city it has too often stultified itself. The key to successful competition is an absolute certainty among the bidders as to what they will be required to do and under what conditions it must be done. It is idle to provide an elaborate procedure in advertising for bids and fail to provide for specifications which permit bonafide competition. By standardizing specifications, forms of contracts and conditions for bidding, reductions of from ten to fifty per cent may be obtained in cost. Such standardizing is a proper requirement for the code. It will mean that coal will be bought for the heat it will give, not the clinkers it produces. If the city be of sufficient size, a testing laboratory as an adjunct to a purchasing department will make possible the purchase of many supplies on a basis of analysis, which otherwise must be bought on appearance and reputation.

Not only should the supplies be bought under standardized specifications, but they should be purchased through a central purchasing agency. Supplies not for immediate use should be retained in a central storehouse, and given out only upon a requisition from the department requiring them. The audit of claims against the city may be regulated by provisions of the code that insure inspection of supplies, while the supplies are still in existence. By making all contracts absolutely illegal which are not entered into as provided in the code, the merchant dealing with the city hesitates to attempt any short cuts or bids for favoritism which may leave him without recourse when his bill comes to audit.

(d) *Specific Application of Revenues*.—It is common to-day to

find that, by special legislation, certain revenues are pledged to certain kinds of administrative activity, without regard to the needs of the particular activity. Often the revenue from excise licenses is pledged to the support of the police department. This may be changed by the code, and city finances put on a sound basis by requiring that all income, with a few minor exceptions such as the payment of certain penalties to pension funds, shall go directly to the general fund, and from there be apportioned by the budget according to the needs of the city for the current year.

(e) *The Fee System*.—The code should abolish the fee system, which is a form of lottery for all concerned, and permit the substitution of adequate salaries in its place. Going one step further, it may require standardization of salaries throughout the city, according to the nature and measure of service rendered. This provision is a step in advance of even civil service, for civil service laws only relate to appointment and removal, and do not reach the abuses which have grown up through unequal salary fixation.

(f) *Hours of Service*.—Office hours of city employees are notoriously short, and, short as they are, there is usually no certainty that they will be observed. Minimum requirements of the time that each employee must devote daily to his official duties are advisable. To ensure the observance of these provisions, time sheets may be required. These time records are also essential to any system of cost accounting, which to-day should be a part of municipal bookkeeping.

(g) *Account Keeping*.—Admittedly, some difficulty may be experienced in making mandatory the installation of any definite procedure in accounting. To attempt to prescribe the various accounts that must be kept in each city department, and in every instance to give the details with which each transaction must be recorded, would make the code a treatise on municipal accounts, rather than a handbook of procedure. But up-to-date and efficient methods in accounting may be assured by other means. Definite requirements may be made as to what must be shown, where it must be shown, and in whom the control shall be vested. By requiring certain general records to be kept, and prescribing definite facts which they must show, the code can assure the city of an adequate and practical system of books and records. No system of bookkeeping that does not come up to that standard would be able to meet the general requirements laid down by the code. By giving some

official the power and making it his duty to prescribe the form and details of the accounting methods of the city, the code may further insure the installation and operation of a system which will meet all the needs of the city. If the code is to be of state-wide application, a state bureau of municipal accounts would be recommended with jurisdiction over all the municipalities which are governed by the code. This state bureau might also be empowered to prescribe forms of standard specifications and standard forms of contracts.

(h) *Sinking Fund*.—Sinking fund requirements are a most important subject for regulation. The code should specify the methods to be followed in computing the annual installments to be included in the budget and should also provide for their investment.

A Code for New Jersey Cities

No code, drafted along the lines suggested in this article, is at present in effect. A code for New York City planned on somewhat similar lines was proposed by the Ivins Charter Commission in 1909. This code, while tentatively completed and submitted to the legislature, was never adopted, nor was the charter adopted which it was drafted to accompany.

Municipal conditions in New Jersey have caused a widespread dissatisfaction with existing city charters. Most of these charters have been in effect from forty to sixty years. By numerous amendments, usually made by laws of state wide application, their present interpretation has become uncertain. In many cases the form of organization prescribed by them is unsatisfactory. Even some charters of later enactment signally fail to meet community needs, and one mayor, whose city is governed by a recently enacted "model charter," advised all cities considering new charters to study carefully their charter first—so they might know what to avoid.

Recognizing the necessity of some concerted effort to improve these conditions, a conference of mayors of the New Jersey cities was recently called by Mayor Cooke, of Hoboken. The meeting was held under the auspices of the Robert L. Stevens Fund for Municipal Research in Hoboken, and was primarily for the purpose of considering the formulation of general laws providing up-to-date charters for use in the New Jersey cities. After a general discussion, it became evident that, great as was the need for charter revision, the need was still greater for a revision of municipal procedure. Business

methods were being neglected and city business was being transacted along lines which long since had been discarded by business men.

As a result of the conference, Governor Wilson appointed a committee of seven mayors and other city officials to consider and report upon a municipal administrative code for New Jersey cities. The Robert L. Stevens Fund was requested to prepare and to present to the committee a tentative draft of a code formulated along lines suggested at the conference. This effort is notably significant as an indication of a definite advance in municipal thought in New Jersey, and its results will be of more than local interest. It marks a distinct step toward a more efficient municipal administration, one which will be governed by rational business principles.

EFFICIENT SUPERVISION OF WEIGHTS AND MEASURES

BY FRITZ REICHMANN, PH.D.,
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In the exchange or barter of trade there is always, either expressed or implied, some more or less definite element of specification as to quality and quantity. The more readily controlled and, in many respects, the more important element is the one of quantity because it is largely a matter of fact, whereas the element of quality is very often a matter of opinion. Even the quality element, taking into consideration its nutritive value, very often is a matter of appearance. The determination of the quantity element is the subject of weights and measures.

Immediately where there has begun trading between the people or a commercial intercourse, however simple, there must necessarily arise the establishment of certain definite standards for comparison in order to have intelligent, equitable dealing. As soon as this trading becomes more complex among the people of one tribe, or of a state or of a nation, or as the commerce increases among the people or among the nations, there arises the necessity of enforcement of the use of certain definite standards for comparison of quantity and regulations for the ordinary, everyday business dealings of one man with another, in order to protect the consumer as well as the dealer. Every civilized nation has taken steps or established statutes in an attempt to insure the correctness of the weighing and measuring devices on the assumption that, if such devices were correct, then the quantities measured by them would be correct. Such an assumption neglects the failings of some human beings in wishing to take advantage of their fellows. Consequently it has been found necessary to take the next evident step, namely, insuring that the devices were properly used after they were correct. It may be remarked in passing that, where commodities are sold in bulk and from bulk, when weighed and measured from correct weighing and measuring devices, ninety-five per cent of such quantities delivered are correct. The matter of weights and measures resolves itself into two main divisions, first, the instrumental side, and secondly, the securing of

proper use of correct instruments. Of these the latter is by far the more important inasmuch as, expressed or implied, the weight or measure enters into every commodity dealt with in the ordinary transactions of trade. It is, therefore, highly important to insure by law equity, fairness and honesty in such dealings and thus to protect the quantity delivered.

A necessary department in every municipality is one that has supervision of the weighing and measuring devices used in trade. This includes the weights, scales, liquid and dry measures, water meters, gas meters and electric meters. Such department shall be held responsible for the correctness of such weighing and measuring devices and should hold the owners or users thereof responsible for their correct use. Such functions of the department, when properly and fearlessly exercised, would be of direct benefit to the municipality in checking the quantity, and very probably the quality, of the commodities delivered to the various departments or institutions supported by the municipality; these would include, of course, feed, coal, hardware, dry goods and other supplies. Secondly, its functions would be of direct benefit to the dealers, both wholesale and retail, in protecting the honest and legitimate dealer against the inroads of those who sell in indefinite terms and who are the only competitors which the honest dealers cannot conscientiously meet. Thirdly, these functions would be of primary importance to the consumers because they would be directly benefited in their daily purchases of the necessities of life. The consumers would have the further stimulating and moral effect of being educated in purchasing in a definite manner, which is the first element of economy. No single legitimate function of the municipal administration enters so directly into the everyday life of the citizens.

The organization of such a department should be simple. As an illustration may be taken a city of about one hundred thousand inhabitants. There should be an executive head or commissioner, who should have a clerk and stenographer, four assistant commissioners or chiefs of divisions, namely, chief of electric meters, chief of water meters, chief of gas meters, and chief of weights, scales and measures. Under each of these chiefs should be two inspectors, although the chief of scales, weights and measures should probably have four. Two vehicles would answer the whole department. In many cities the electric meters, gas meters, and water meters

ordinarily come under the jurisdiction of separate departments, there being a somewhat erroneous idea prevailing that, from a standpoint of financial control, they should come under these other departments. But, economically, all functions of testing should more properly come under a testing department such as the one here considered. The commissioner of weights and measures should have an office and a laboratory or mechanical division equipped with the proper standards for making the comparison with commercial apparatus. The expense of such an equipment would depend somewhat upon the particular kind of manufacturing industries prevailing in the municipality. The cost of laboratory equipment and working standards, including the inspectional kits carried by the inspectors, would probably not, at first cost, exceed \$4,000, divided about equally among the four subdivisions of the department.

The administration of the department is materially simplified if, in inspecting the various kinds of apparatus under its jurisdiction, definite specifications for apparatus are issued and these regulations adhered to by the department. The department should establish a firm policy of tolerances and variations on commodities delivered or ready to be delivered to the consumers or to the municipality. No apparatus should be allowed to be installed or used for the purpose of measurement of any kind which has not first been inspected, tested and approved by the department. This is very essential as it stops the launching of false apparatus. The head of the department in his regulations should confer and co-operate with the head of the state department, if there be such, in order that there may be uniformity in methods of administration in the various municipalities.

A very important function of the administration of the department is the prosecution of violations of the laws relating to the correctness of the weighing and measuring devices and the manner of sale of commodities. Where such law is by ordinance it would be advisable for the head of the department to confer with the similar state department relative to the form of such ordinances in order that there may be uniformity in the ordinances. Such is the case in the State of New York where practically all the ordinances relating to weights and measures follow one uniform type.

The department should, in its educational function, give occasional exhibits to show the people what has been done and to educate the consumers how best to protect themselves. Such occa-

sions frequently arise in talks to church clubs, schools, food fairs, association meetings, etc.

A municipal ordinance relating to weights and measures should establish, first, a department, together with a provision for the salaries of the regular employees of the department and a provision that the expenses be paid in the regular way in which such expenses are paid by the particular municipality. The ordinance should prescribe that no weighing or measuring device can be used until it has been inspected, tested and sealed by the department of weights and measures; and, where particular classes are licensed, such as peddlers, their license should be granted only on condition that the apparatus used by them has been tested and sealed. The duties, outlined in the ordinance, should be broad enough not to hamper the department by picayune technicalities, which, of course, will often arise in the prosecution of violators. The following wording of the ordinance is suggested:

The commissioner of weights and measures shall have a general supervision of the weighing and measuring devices in the city and in use in the city. He shall take charge of, and safely keep, the primary and working standards of the city. He shall have the power within the city to inspect, test, try and ascertain if they are correct all weighing and measuring devices and instruments of every kind and any mechanical device for measurement and the tools, appliances or accessories connected therewith that are used or are employed within the city by any proprietor, agent, lessee or employee in determining the size, quantity, extent, area of quantities, things, produce, articles for distribution or consumption or use, or offered or submitted by such person or persons for sale, for hire or award. He may, for the purpose of making a proper inspection and test and the general performance of his duties, enter or go into or upon, and without form of warrant, any stand, place, building or premises, may stop any peddler, vender, coal dealer, junk dealer, ice wagon, or any dealer whatsoever, for the purpose of making any proper test. Whenever he finds a violation of the laws relating to weights and measures, he shall cause the violator to be prosecuted.

Such a provision is broad enough to cover all kinds of weighing and measuring devices, including not only those used for the sale of commodities, but those used for the purpose of estimating the compensation of employees, as is done in a great many manufacturing institutions. The ordinance should prescribe a penalty for the possession of a false weighing or measuring device and an increased penalty for second and subsequent violations. The ordinance should prescribe that all commodities, sold within the city, shall be sold by

standard weight or standard measure, provided, however, that such commodities which appear as a unit in the state of nature may be sold by numerical count. The department should establish tares and tolerances and maximum variations, which are allowable.

The shortcoming of most laws and ordinances is that they go into unnecessary and minute details, which should be a matter of regulation and administration. Where regulations are issued, such regulations would be required to be made in printed form and advertised for a period of sixty days before they go into effect.

The efficiency of a weights and measures administration will be highest when the administration will insist on four things: (1) The elimination of the launching of false apparatus or apparatus which, from its construction, is such as to facilitate the perpetration of fraud or is not such as to be conducive of proper service; (2) always a firm and impartial weighing of evidence in cases of violation, as to whether an element of deceit or fraud is involved; (3) taking into conference the business interests and business men of the municipality, thereby obtaining their co-operation in eliminating the evils of short or false weighing and measuring, whether intentional or accidental; and (4) a full, lucid report on work which has been done by the weights and measures department.

In conclusion, an efficient inspectional system of the weighing and measuring devices which enter into our everyday life, and every hour of every day, and whose accuracy affects directly the cost of such commodities is a necessary and welcome function of every municipality. This has long been recognized by all civilized nations and municipalities, with the exception of a great number of municipalities of the United States, due largely to the lack of appreciation of the subject by the federal and state governments of the United States.

SECURING EFFICIENT ADMINISTRATION UNDER THE COMMISSION PLAN

BY FREDERICK W. DONNELLY,
Mayor of Trenton, N. J.

The most interesting innovation in the field of municipal politics in the past decade has been the development of commission government, so termed because the governmental policies are entrusted to a board or commission. It had its inception in the City of Galveston after the disastrous flood of 1900 had completely devastated that city. The remarkable progress that was wrought in rehabilitating Galveston under its new charter made that city the cynosure of national attention. This condition, augmented by the general dissatisfaction that emanated from many quarters where the old system of municipal government had become inadequate, caused other Texas cities to hold referendum elections for the purpose of adopting the new and modern plan. In every instance civic awakening followed in the wake of the new charter, and commission government was heralded as a panacea for long existing municipal evils. Other western and southern cities, including Des Moines, Iowa, soon followed the example of Galveston and the change of charter was attended by some amazing and highly meritorious results. The agitation for a more modern system of government gradually spread to the East. One of the first cities to give serious consideration to the proposition was Trenton, where the subject was first considered at least two years before the campaign for its adoption was commenced.

One of the most satisfying proofs of the efficiency and superiority of government by commission is the dearth of criticism that has been directed at the plan in municipalities where it has been adopted. Of course, there are many who are antagonistic to the features embodied in the commission government law and much opposition has been manifested in the various campaigns that have been conducted for its adoption, but, nevertheless, this opposition generally sinks into oblivion after a short period of practical commission rule. The statement has been made, and I believe by veracious authority, that not a single municipality, either east or west, that has voted to super-

sede the old aldermanic system by the commission plan has returned to its former charter. Truly this is an astounding condition which proves conclusively that commission government is not the outcome of theoretical fanaticism.

Another proof of the universal satisfaction that commission government is giving lies in the fact that between January 1, 1906, and February 1, 1912, one hundred and eighty-six American cities, representing thirty-three states, voted in favor of adopting its provisions. These cities are typical American cities, ranging in size from the fourth class municipality of four or five thousand to cities of one hundred and fifty thousand population. Hundreds of other municipalities are considering the advisability of abandoning the old system and replacing it by government by commission.

Considering the fact that government by commission, as a governmental institution, is still in its infancy, being a product of the last dozen years, the vast number of cities that are now operating under its provisions augurs well for the future success of the system.

Although the various commission government laws that are in operation throughout the country differ in some minor details, they are all essentially the same in one respect; that is, they result in the substitution of modern and practical business methods for political prestige in the official conduct of municipal affairs.

To my mind, the long-felt want that the new plan has supplied lies in the modernization of its charter provisions. Conditions that were predominant fifty years ago are unimportant factors in municipal affairs to-day; the plan of operation that was successfully effectual half a century ago can no longer grapple with present day problems. Cities that do not keep apace with the advancement of time, instead of progressing, will find themselves retrogressing. A municipal corporation, the same as a business corporation, must live in the atmosphere of the present day if it desires to take its place among the foremost American cities. Commission government, to an immeasurable extent, met with immediate success because it embodies the modern features that are lacking in the charters of many of our cities.

The important characteristics of the commission plan as it has been adopted in American cities, are: (1) the placing of the municipal governing authority in a small body of men; (2) their election at large, instead of by wards; (3) the power to exercise administra-

tive and legislative functions and the privilege of appointment by the board; (4) the placing of each commissioner in charge of a definite department and making him responsible to the people for its proper and intelligent management; (5) the power given to the people to secure honest and efficient government through the medium of the initiative, referendum and the recall. The intrinsic value of commission government really rests on these cardinal principles.

The first characteristic feature of government by commission is the placing of governmental authority in a small body of men. Under the councilmanic plan it was literally impossible to secure concentration of power and responsibility because of the vast army of men who were directly interested in legislating for a city's wants. A body of twenty-five or thirty men is too unwieldy and cumbersome for the expeditious transaction of business. Petty differences will arise concerning matters of trivial interest to certain localities which will require the time and attention of the whole body, notwithstanding that the subject under discussion is of relatively no importance to the community. Unanimity of opinion, which is so essentially necessary in municipal affairs, is rarely, if ever, found to exist in large legislative bodies, because a representative, instead of devoting his efforts to problems whose solution will be of permanent benefit to the entire community, usually becomes actively interested in only those things which pertain directly to his constituents. Then again, it is extremely difficult to place responsibility on individuals under the councilmanic form of government. Instead of each councilman having unlimited supervision over certain departments as in the case of a commissioner, the governing body, as a whole, outlines the course of procedure and the general management of every department; consequently any errors of judgment or dishonesty of action reflect discredit on the entire council and precludes the possibility of singling out the guilty individual. One of the greatest assets connected with the small board proposition is that it allows the electorate to have full knowledge of the men who aspire to serve them. When there are innumerable elective offices to be filled, it frequently results, unfortunately, in a great array of candidates entering the field, which means that the public cannot give the prospective officials the attention their candidacies should have. Consequently, it is easily conceivable that sometimes men totally unqualified slip into office. Inevitably an administration of destruction rather than of construc-

tion follows. Under the short ballot plan it is highly improbable that such a condition should exist. Voters have a better opportunity of measuring the merits of the candidates when but few offices are to be filled. Citizens have a better opportunity of studying the commissioners after they are in office, as their every act is open to the closest scrutiny.

The abolition of ward elections is the second characteristic of government by commission. This gives every citizen a chance to vote for the candidates who, in his judgment, are best fitted to fill the commissionerships, regardless of the section of the city in which they reside. Thus the commissioner is the representative of all the people and as such is free from the petty ward obligations that are shouldered by the councilman. The commissioner, having been elected to office on a blanket ballot on which no party labels or designations appeared, is left free to administer his office without being embarrassed by partisan influences. Governmental bodies consisting of ward representatives are frequently disrupted through the petty jealousies that are manifested when one section of the city appears to receive more prompt attention than a rival district. Such small and unmeaning differences are not apparent in a body whose members have been the popular choice of a great majority of the citizens. Commissioners when elected at large are responsible to the entire city and consequently act for the entire city and their every act is prompted by this knowledge. In the majority of cases they devote their time entirely to their official positions and become trained experts in municipal management. It is a sensible conclusion that men who are in constant touch with the prevailing conditions in a municipality prove better officials, possessing increased competency and efficiency over men whose attention to governmental problems is only given at periodical intervals.

The third peculiarly essential feature of commission government is the concentration and centralization of the authority that was formerly vested in the mayor, the members of the common council, the various administrative boards, and the heads of departments. The governing body, in commission cities, might properly be termed the working unit of the municipal government, for, although the commissioners may assign a certain element of their power to subordinate officials, they are, at all stages, complete masters of the situation. The legislative privilege enjoyed by common councils is also pos-

sessed by the commission, but to a greater extent. Ordinances passed under the old system of government were subject to the approval or disapproval of the mayor before they became recognized enactments. It cannot be denied that this veto power has sometimes been shamefully abused for political purposes; especially is this true when a majority of the members of the board of aldermen or the council hold political beliefs opposite to the views entertained by the mayor. Friction and political animosity existing between the governing body and the chief executive of a city have, time and again, been the cause of preventing the enactment of laws that would have proved to be of everlasting benefit to the future welfare of the city. Commission governed cities, however, are fortunately safe from the wiles and treachery of political tricksters, because under their system politics has been supplanted by business and personal ambitions have been overshadowed by desire for efficiency and capability. When the commission decides affirmatively on a measure its action is final and supreme so far as the enforcement of the law is concerned. Of course, the commissioners are at all times subject to the will of the people through the initiative and referendum and are consequently prohibited from abusing, to a considerable extent, the vast power they possess. As the enforcement of the laws, after their adoption, is also in the hands of the commissioners, they possess unlimited administrative functions as well as legislative authority. They have the power to appoint the subordinates who, under their supervision, carry out their mandates. They make appropriations and subsequently watch over the expenditure of the money appropriated. The compilation of the yearly budget also comes under their absolute control. In short, they possess the powers of legislation, administration and appointment.

The next essential characteristic of commission government is the placing of a commissioner in absolute control of a distinct department. Thus the commissioners are both collectively and individually responsible for the honest and efficient conduct of their duties. Under the New Jersey statute, the executive, administrative and legislative authority in cities electing five commissioners is divided into five separate departments, as follows: Department of Public Affairs, Department of Revenue and Finance, Department of Public Safety, Department of Streets and Public Improvements, and Department of Parks and Public Property. A commissioner, on being

assigned to any one of these departments, has absolute control and is also individually responsible to his fellow commissioners and the people generally for the actions of himself and his subordinates. The mayor, who is Director of Public Affairs, is a sort of advisory director to each of the other commissioners. The commission meets inmediately after election for the purpose of organization. At that time the assignments to the different departments are made. Although the commissioners are in charge of separate departments they work in conjunction with one another. This is one of the principal reasons for the success of commission government—a spirit of unity permeates the meetings of the commission. The small body that is responsible for the governmental advancement of the municipality outlines a constructive policy to be pursued by their subordinates. This is surely an improvement over the old system, under which the management of every department, no matter how small or unimportant it might be, was placed in the hands of a man who was termed head of that department. This condition led to a confusion of authority and had a detrimental effect upon the efficiency of the department itself. The concentration of power and authority secured through the enforcement of commission government places such minor departments directly under one head and consequently greatly simplifies the management thereof.

All considered, the scintillating feature of commission government is the power of public expression that is given to the citizens themselves; the privilege of taking matters into their own hands if they believe their representatives fail to realize that public office is a public trust. This power lies in the initiative, referendum and recall. In order that these strictly inherent features of modern municipal government may not become the dangerous playthings of selfish whims or over-zealous rectitude, the founders of commission government have thoughtfully prepared a means by which their aid can only be invoked when so requested by a large percentage of the citizens of the community involved. The common mode of preventing the abuse of the initiative, referendum and recall is by requiring the filing of a petition signed by a substantial percentage of the citizens who desire to resort to any one of these three modern weapons of public expression. Thus, it would be an extremely difficult matter for a group of citizens actuated by personal bitterness or unfriendliness towards a commissioner to make use of the

recall unless substantial proof was offered which would clearly and conclusively show that the application for removal was based on well-founded contentions.

Speaking of the power of public expression that is given to the people under commission government, it should not be overlooked that this privilege is made possible principally through the extensive publicity that characterizes the actions of the commissioners. Publicity is one of the basic features of commission government. All meetings are held in the open, secret sessions and star chamber proceedings having no place in a government that essentially belongs to the people. The minutes of every meeting and the public records and documents are at all times open for inspection. Monthly statements dealing with finances and general proceedings are either published in pamphlet form or appear in detail in the leading newspapers. New ordinances are printed in full for a stated period in local papers. In many commission cities, when important measures come before the governing body, personal invitations are sent to a number of representative citizens for the purpose of holding a general and impartial discussion of the advisability of adopting or rejecting the proposed measure. The result of this wide publicity is that the ordinary citizen has an intelligent idea of municipal conditions and is also in a position where he can pass judgment on the relative value of the commissioners. There is no confusion, no obscurity, no chance for any dishonest measures to be slipped through without detection. Every elective officer becomes a shining mark for criticism—hence sensitive, responsive government. The ambition of every officer is to give good government, because that is the one way to keep in the good graces of the public. If, for unknown reasons, the commissioners should refuse to consider the adoption of a law desired by a majority of the electorate, it is within the province of the people to initiate action, take the matter into their own hands and decide whether such a measure shall or shall not receive official confirmation. Likewise, should the people's representatives be undecided as to the action they should take on a measure affecting the public welfare, they can submit the proposition for popular expression. Thus it but rarely occurs that an unpopular measure secures official sanction, due to those modern devices of municipal government, the initiative and the referendum.

All things considered, however, there is one particularly insepa-



able feature to commission rule that engenders governmental efficiency, and that is the recall. An official, realizing that his every act and recommendation decides his continuance in office, will, by natural inclination, strive for public approbation. This, he well knows, can best be secured by efficient administration. Under the old system of government it is possible for an elective officer to forget that he is simply a public servant and use his official influence towards securing favoritism for some private or corporate interest, because, having been elected for a certain number of years, he is beyond the power of removal until the expiration of his term of office. Under commission government, however, the remedy is very simple and easily applied. Upon adequate proof of the inefficiency or dishonesty of an official the dissatisfied voters can resort to the recall, and if the majority so rules the delinquent is legislated out of office, notwithstanding that he has still several years of his original term to serve.

To sum up briefly, it might be said that the chief characteristics of commission government are embodied in the following municipal reforms: centralizing responsibility upon a small number of elected officials; non-partisan elections; abolition of ward lines; economy of administration, greater efficiency, application of business methods; referendum, initiative and recall; simplification of the system and wide publicity.

Commission government in New Jersey has made startling progress in the short time it has been a governmental fixture in this state. The bill providing for its adoption was introduced in the 1911 session of the New Jersey legislature. The bill provided that a municipality, on the petition of thirty per cent of the voters who voted for the Assembly candidates at the last general election, might demand a referendum election on the question of a change of charter. The bill was vigorously opposed by the special interests and the old-time leaders of both political parties, but, like all the other progressive measures that have been introduced during Governor Wilson's administration, finally secured a place on the statute books of our state. The Trenton Chamber of Commerce, being deeply impressed with the necessity of a new and modern charter for the City of Trenton, waged a strenuous campaign for the passage of the bill. Trenton was the first municipality to take advantage of the commission law, the necessary signers to the petition being

easily found. The election was held on the twentieth of June, 1911. It resulted in an overwhelming victory for the commission forces, and the change became effective on the twenty-second of the following August.

Trenton has now been operating under the provisions of the commission government act approximately seven months, and in that time enough has been accomplished to show that the new charter is vastly superior to the one it superseded. Practically the first four months were devoted to the organization of the different departments which, when we took hold, were found to be in a state of chaos. With the enormous amount of routine business which each commissioner encounters daily, the task of reorganization was a heavy one and required long hours of constant application and careful study. The real legislative work of the commission did not actually start until the first of March, 1912, when the budget for the ensuing year was adopted. Consequently anticipated results, which were outlined at that time, cannot be looked for until the following year.

Although the reorganization of the various departments has been effected, there are still many things uncompleted that may have a further beneficent effect upon this organization. The financial statement of the city's resources and liabilities and the new system of accounting, which are being worked out by expert accountants, are now nearing completion and, when finished, will give us a perfect reorganization, fully equipped to transact business along modern and economic lines. In the reorganization of departments unnecessary clerkships have been abolished and all salaries that were found to be excessive have been reduced to a basis that corresponds with the salaries paid by corporations. In our efforts to economically secure necessary improvements we have prudently endeavored to follow a policy of retrenchment, and this policy has been followed consistently in every respect without crippling or handicapping the efficiency of the departments themselves.

When the commissioners assumed control of the affairs of the city they found nearly every department in the city in urgent need of additional appropriations. The budget was approximately fifty thousand dollars short of the amount necessary for the expeditious management of the various departments, and, of course, had to be revised; the resultant tax rate, therefore, which was slightly increased,

could not be numbered among the responsibilities charged to the commissioners. Every city has to pay for its improvements, and Trenton, especially, is an extremely expensive city, at least in some ways. It is built over a large area and consequently necessitates a greater number of schools and more fire and police protection than if it were compactly laid out, as so many of our larger cities are. For the same reason it also requires a greater expenditure for the proper care of its streets.

One thing that the commission has accomplished, which was never before attempted in Trenton and which will undoubtedly prove of future benefit to the city, is the taking of an inventory which will disclose in detail the many valuable assets belonging to the city. With detailed knowledge of the city's assets and liabilities, and a correct financial statement, the commissioners are now in a position to judge what burdens they can assume and what burdens they may safely inaugurate.

The abolition of salaried boards, whose duties are now being assumed by the Board of Commissioners, will be the means of considerable saving each year to the taxpayers.

In order to illustrate comprehensively the greater efficiency that marks the municipal management under commission government, it might be well to reveal a condition that was uncarthed in one of our important departments some few weeks ago. The water department, as is the custom at certain intervals, had advertised for bids for hydrants, valves and other needed equipment. The bids, when opened, disclosed the fact that the company that had been particularly favored in past years had rigidly adhered to the practice of selling supplies to the City of Trenton at a price ranging from thirty to fifty per cent in advance of what the same articles were sold for to other cities. Up to the present this conundrum has remained insolvable.

In order to help solve the problem of city finances, the commission will empower the mayor to appoint a board to devise new sources of revenue for city purposes. The time has arrived when we should have sources other than taxation by which we could increase the city's income. Before this plan could be successfully worked out, additional legislation will probably be necessary. But it will be a very short time before we will be compelled to give thought to such a plan if we are to carry out contemplated improve-

ments and keep the tax rate from reaching a prohibitive figure. We are endeavoring to revise the system of poll and personal taxation now in vogue in Trenton with the idea of securing increased revenue for the city. Another innovation that should be productive of increased revenue is the creation of the office of Excise Detective. A stricter watch will be kept on the saloons and other licenses than heretofore. All violations are now promptly reported and the offenders justly fined. In connection with the excise question, it might be well to add that the commissioners have decided to grant no new licenses until the ratio of the saloons to the number of inhabitants averages about one to every five hundred. In all probability an advanced license fee will be adopted which will result in the elimination of many unnecessary saloons and in giving the police more direct jurisdiction over excise matters with the idea of elevating the saloon to a higher standard.

The commission has started action in several municipal problems that have hitherto been borne patiently by the city. One of these is to secure a reduced rate of gas and electricity and a better quality of both. This matter has been placed in the hands of the State Public Utility Commission for final consideration. The aid of this commission has also been invoked in an effort to eliminate the smoke nuisance which has caused untold damage to our public buildings and private residences.

Our police and fire departments have been increased and the Director of Public Safety has been instructed to purchase additional fire apparatus of the most improved type. The police department is doing better work than during any time since its organization and lawlessness and criminality are on the decline in Trenton. This is due to the alertness of the police and the stern and even-handed justice that is being measured out by the police court justice, who, with the aid of one clerk, is now doing the work that it formerly required two justices and two assistants to do. In connection with increasing the efficiency of our police department, the commissioners are considering the feasibility of establishing an ordinance school for patrolmen. Every ordinance passed by the commission in any way affecting the policemen should be intelligently explained to them and, under the plan suggested, this explanation would be made by a student of municipal law who would be competent to transpose the original wording of an ordinance into phraseology that would

be interpretable to the average man. This plan, if adopted, will prove widely beneficial to our policemen and also to the general public who are under their guardianship.

Another proposition that the commission is closely following and which will soon commence to have a noticeable effect on the growth of Trenton, is the Delaware River channel, which is now nearing completion. This will practically make Trenton a seaport city. Modern municipal docks will be constructed. Negotiations are already under way for the purchase of land for this purpose. It is but a question of a very short time before Trenton will be equipped with modern water shipping facilities.

Under a resolution recently adopted by the city commission, the mayor has appointed a commission to develop a systematic and comprehensive plan for future development. When this commission gets under way it will probably be one of the most important bodies in the official life of Trenton. Plans have been tentatively formulated for the future development of the city. The commission is composed of local engineers who will devote their time and knowledge gratuitously to the city in working out these plans. After this work is well under way, it is our intention to enlist the aid of expert civil and landscape engineers, men who are recognized as authorities in this line. In furtherance of the policy of securing a city beautiful, steps have been taken to have all unsightly telegraph and telephone poles removed from the streets and to have the wires placed underground. The business center and, for that matter, every section of the city are gradually being better illuminated. Plans have been worked out and the installation of a great white way, similar to those that are now in operation in some of our larger cities, will be commenced this spring.

The problem of grade crossings at railroads has received our attention and we are putting forth every effort to secure the elimination of these abominable danger points.

Several grave problems are confronting us which demand immediate attention, including the construction of sewage disposal and a filtration plant. The question of potable water has always been attended with a diversity of opinion in the City of Trenton. The commissioners, however, have decided that a filtration plant is what is needed and we have adopted a slogan, "Pure Drinking Water Within a Year," which we are irrevocably pledged to carry

out. During the past winter we were seriously threatened with a typhoid epidemic, caused by the impure water supply, during which the death rate increased with appalling regularity. Fortunately, however, through the application to the water of hypochlorite of lime an epidemic was averted. We have continued to treat the water by chemical processes as a temporary relief until a filtration plant is established. Arrangements have been completed for the construction of a modernly equipped filtration plant and sedimentation beds, legislative sanction having just been given to an appropriation of half a million dollars for that purpose. In consummating our plans we have had the advice of competent and experienced engineers.

As a further temporary relief, pending the installation of a filtration plant, the commissioners will install eight pure water supply stations at various points throughout the city for the benefit of the people living in the respective neighborhoods. The water is purified by ozone treatment. Remarkable success has attended the opening of one of these stations and hundreds of our citizens who are unable to purchase bottle water are taking advantage of the opportunity that has been afforded to obtain potable water.

Another institution that we have given to the city is a municipal tuberculosis hospital. This institution a few months ago was practically unheard of. To-day, however, the City of Trenton has a first-class tubercular sanatorium where sufferers from tuberculosis, especially those of the indigent class, can go and receive the best of treatment. It is equipped in the most modern fashion and a corps of capable nurses are in charge under the supervision of a very efficient supervising nurse. One of our three city physicians has been placed in charge of the campaign we have instituted against "The Great White Plague." We have also undertaken the establishment of a settlement for the city's poor and indigent sick. Tentative plans have been formulated whereby we can dispose of our city almshouse at a price that will approximately defray the expenses incident to establishing the contemplated settlement. Under this plan we would effect a centralization of our poor department which is in accordance with a policy we are attempting to pursue in all city departments. This settlement would include the city almshouse, tubercular hospital, city hospital, open air and night camps for tuberculosis patients who are able to work during the day. We

would also make provision for a children's hospital. It is our intention to place this settlement on a self-sustaining basis by utilizing the surrounding land for agricultural purposes. In this connection I might add that a medical dispensary will be opened shortly in the City Hall, where a doctor and trained nurse will be in attendance for several hours each day for the benefit of those destitute sick who are financially unable to pay for the advice of a physician, but who are able to come to the City Hall for treatment.

We have also organized a bureau for the consolidation of public charities which embraces the charitable organization connected with the various religious denominations of the city. Members of the Hebrew, Roman Catholic and Protestant churches are actively interested in this work, which is very extensive in its scope. In the past, charity cases, upon application, received aid from the city and in many instances would also seek assistance from the churches with which they were affiliated. With no central organization it was comparatively easy for undeserving persons to receive assistance. With the establishment of the Charity Bureau, the overseer of the poor will be placed at the head and a modern system of checking adopted. Every application for city aid will be diligently investigated before any money is disbursed. If the applicant is a Catholic, the Catholic societies affiliated with the bureau will conduct the investigation; if a Protestant, then it becomes the duty of the Protestant societies to report to the overseer and so on. In this way it is hoped to prevent undeserving cases from receiving aid. Duplication will also be stopped, for if a church organization decides to care for a case, the overseer of the poor will be so informed and city aid will not be forthcoming. Complete records of each case will be kept and a Charity Bureau committee will make a continuous study of each case with a view to effecting permanent relief.

Commission government in Trenton, although in its infancy, has accomplished many definite results. Open competitive bidding has been adopted for contract work; city advertising has been placed on a business basis; legal advisers to city boards have gone out of existence with these boards and in their place a legal department has been established; a city chemist has been included in the personnel of officials; theaters and moving picture houses are kept under strict surveillance; all city bills are paid promptly; city business is transacted more quickly than ever before; city employees

are required to devote their entire time to city work; weak places in the various departments have been bolstered up; substantial assurance has been secured of an improved trolley service; automobiles have been purchased to expedite the work of several of the departments and to secure greater efficiency; and, above all, business efficiency has superseded politics.

The time has been too brief, since the city adopted the new form of government, to accomplish all the reforms and improvements that have been undertaken. It requires time to bring about changes and to institute reforms. The principal work of the commission, up to the present time, has been to take the initiative in matters that were neglected in the past. Past errors were due to the obsolete system, not to the shortcomings or inability of the men; the system was at fault.

However, Trenton is giving an impartial trial to modern municipal government and, for that matter, to all the progressive policies that are now being agitated throughout the country. For along with commission government we are also working under the provision of civil service. Our citizens also, by popular expression, have decided to place the governmental affairs of the county in the hands of a small board of freeholders, which plan practically embraces the same fundamental principles as government by commission. The eyes of the nation are focused on our city and county; but we are willing to be placed in the limelight for we have unfaltering faith in the efficiency and far-reaching effectiveness of our present system of government.

PART THREE

Bureaus of Municipal Research

7

THE NEW YORK BUREAU OF MUNICIPAL RESEARCH

BY GEORGE B. HOPKINS,
Trustee of the Bureau.

When the New York Bureau of Municipal Research was started people said, "You can never get efficiency standards accepted by New York." After several borough presidents had been "recalled" via removal on evidence of inefficiency, "albeit," as Governor Hughes said, "there is no evidence of personal corruption;" after accounting revision was started for all departments; after the period of public interest in budget making lengthened from two days to six months; after health work for children was reorganized, people began to say, "Oh, you can do such things in New York, but you can never make such methods work in Philadelphia, Cincinnati, Hoboken, etc." Yet, in January, 1912, Mayor Blankenburg, of Philadelphia, and Mayor Hunt, of Cincinnati, stated publicly that they believed the recent reform waves in their cities would "make good" because they started, as previous reform waves had never started, with a vast amount of definite information with respect to the city's business methods and with the promise of continuing co-operation of an informed citizen agency working through health, school, accounting, engineering and other research experts.

Just because municipal research concerns itself with methods rather than with men, just because it operates impersonally through discovering and publishing facts, it promises to be just as successful in one place as in another. Because there are more cities with fewer than 100,000 population, I shall cite concrete results that are reported from the expenditure of \$4,000 a year during 1910 and 1911 for the City of Hoboken, N. J., with a population of 70,000. Mrs. Robert L. Stevens was considering various alternatives—a wing to a hospital, a day nursery, etc., for a memorial to her husband. An officer of the Bureau of Municipal Research was asked on which he would spend \$2,500 a year. He replied, "Neither." When a substitute was demanded he replied, "Brains." Mrs. Stevens finally set aside \$4,000 a year for a three-year test to be administered by the Bureau of Municipal Research in co-operation with the people of Hoboken to

"increase year after year the number of mothers and fathers who will take an interest in Hoboken's city government." In two years this fund,

1. Employed a nurse who, after visiting 515 families in the interest of school children with physical defects needing attention, and 300 families in the interest of sick babies, has been regularly employed by the board of education.

2. Conducted a campaign on the summer care of babies which resulted in the employment by the board of health of two visiting nurses and a milk inspector.

3. With the Board of Education held a dental hygiene exhibit, which hastened the opening of a dental clinic for school children.

4. Made the investigation and promoted the legislation which led to state-wide supervision of weights and measures.

5. To guide charter making, published a digest of the laws and ordinances pertaining to the powers and duties of city officials.

6. Published a directory of charitable and civic agencies.

7. With the Board of Trade gave a largely attended budget exhibit, and, in addition, arranged a budget Sunday and budget hearings.

8. Disclosed a deficit of over \$300,000 in sinking fund provisions, and proposed a plan for adequate future treatment.

9. Emphasized the need for proper and adequate accounting methods for the city's business which the three candidates for mayor in 1911 pledged themselves to introduce.

10. Effected savings in the bills for public printing, purchase of supplies, etc., and showed where and how thousands of dollars could be saved yearly. (The one local daily newspaper's refusal to print facts about government was turned into an important asset by competing papers which gave publicity.)

11. Arranged a charter conference for January 3, 1912, between Governor Wilson and the mayors and corporation attorneys of twenty New Jersey cities.

12. Took the preparation of an administrative code in collaboration with the committees appointed by the governor.

13. Assisted the Board of Education and other civic bodies in the organization of a school extension committee.

14. With the State Federation of Women's Clubs and the commissioner of education has outlined a state-wide study by women's

clubs of the public schools as to medical inspection, promotion and retardation and sanitation.

15. Set an example which has affected nearly all Jersey cities which are more convinced by Hoboken's experience than by New York's, because Hoboken seemed less hopeful than they.

Viewing this work from a distance the editor of the *Christian Science Monitor* (Boston) recently wrote of the municipal research method:

A mountain hamlet may, relatively speaking, be more in need of social reform and uplift than an urban industrial center. . . . A flourishing and outwardly attractive suburb may have as much "graft" in its government as the city where its men earn their incomes and where its women find their amusements and do their shopping. Whether the suburb has honest government or not depends in the last analysis on the same conditions that determine urban probity or venality. . . .

This was conclusively demonstrated in Dobbs Ferry, a New York City suburb, in an election just held. Candidates were forced to assent to or dissent from a clearly defined community program that took a look ahead; to pledge themselves to favor free public discussion by citizens of all proposals involving expenditure of money; to promise to keep town accounts and to make assessments after a plan devised by expert municipal accountants; to establish a local information bureau with facilities for enlightening applicants at any time; and to unite with officials of adjoining towns in campaigns outlined to promote the well-being of all persons in that region of Westchester County.

It is superfluous to remark that even a campaign run on such a plan of tactics would be educational even though reform candidates were at first defeated. But they were elected. What Dobbs Ferry has done other villages can do, especially if, as in this case, women intent on civic uplift are numerous. *The Bureau of Municipal Research lives to serve; and it knows no distinctions based on size of the community applying for aid.*

The following incident illustrates the value of a "continuing memory" among business men to parallel that continuing memory among politicians which has so often proved its effectiveness. It has never before been published, but, as a trustee of the Bureau of Municipal Research, and a friend of several city officials involved, I feel justified in including it in an efficiency number of *THE ANNALS*. At the first meeting of the Fusion-Gaynor Board of Estimate and Apportionment, the first week of January, 1912, nine resolutions were introduced and passed, all looking to the systematizing of city business. For example, they provided for a comprehensive study of

teachers' salaries, for a corporate stock budget, for standardizing salaries, grades, supplies, etc. So businesslike was the meeting that the newspapers featured it with glaring headlines and congratulated taxpayers upon the new standard of public responsibility and foresight shown by the new officials. Every one of those resolutions was suggested to the officials by the Bureau of Municipal Research, immediately after election. Not only were they explained, and justified by facts based upon four years of intimate study of city business, but they were actually typewritten, brown-backed, delivered to the Board-of-Estimate members' baskets on the morning of the meeting, and multigraphed and distributed for use by newspapers. Thus the new administration started higher up and further on its first Friday than its predecessors ended after four years.

Another illustration is typical of the municipal research method and its advantages: After Mr. Prendergast's election as comptroller of New York City, he was told that a certain bureau having twenty-three employees needed thirty more men to do the increased work assigned to it. The comptroller asked for a bill of particulars from those recommending the increase and from the bureau. The bureau's report read:

"The duty of 'John Doe' is to post items from vouchers and warrants into a register or ledger. These operations 'John Doe' made during the months of November and December at the rate of one for every eight minutes. Dividing the number of entries required by the number of entries one man can easily make in one day, fourteen men should do twice as much work as twenty-three men have been doing." Nine men were dropped.

An interesting incident in co-operation was the bureau's help in the selection of an expert staff to install a revised accounting system. The bureau secured the co-operation of various accounting houses in recommending men to Comptroller Metz, then interviewed these men to see which had superior technical qualifications, and reported the facts to the comptroller. While the request for \$40,000 for this special staff was pending, a prominent member of the board of aldermen demanded four of the positions as a condition of his furthering the special revenue bonds. Comptroller Metz replied that the applicant could have the whole \$40,000 if he would have his men meet the qualifications, i. e., at least five years' experience as an accountant plus proof of special competence for this work. The

answer was, "What in blankety-blank-blank could I do with jobs like that on the Bowery?"

After working with the bureau for four years Comptroller Metz established a fund of \$10,000 a year for three years for promoting efficient municipal accounting and reporting in American cities. This fund has been issuing "Short Talks" to city officials which constitute a sort of question and answer department on accounting and reporting matters. These talks have included methods of treating sinking funds, how to make up a budget, the advantage of budget exhibits, etc.¹ The fund will issue shortly a report of a field study by Henry Bruère, director of the bureau, on the way commission government is working in ten commission cities. This was the first study of its kind. Two thousand questions were applied to each city covering (a) survey of the physical condition of the city, (b) conferences with representative citizens of all kinds, and a critical examination of (c) organization, (d) personnel, (e) records, and (f) work methods.

Of this municipal research plan of focusing public attention upon methods and results rather than upon men and parties, and its continuous between-election effort to inform the public regarding public business, Mayor McClellan said:

"The service of the bureau in purely municipal work marks a new departure in city government,—the active co-operation of the public with the city administration."

Governor Hughes said:

"The character of the bureau's investigation to aid administration in city affairs marks one of the most important improvements of recent years. It is striving to get at the facts in an honorable, straightforward way, and is striving to present them so that they will be intelligently comprehended."

Finally, when President Taft secured an appropriation from congress for the commission on economy and efficiency, he chose a director of the New York Bureau of Municipal Research to apply to all national departments the same methods of administrative research which have paid such large dividends wherever tried. Copies of the commission's reports may be had by writing to Dr. F. A. Cleveland, Chairman, White House offices. One of the newest appli-

¹ See "A National Fund for Promoting Efficient Municipal Accounting," by U. L. Leonhauser, Part IV.

cations of the method is a study soon to be finished (by the New York Bureau through the Training School for Public Service) of the public school system of Wisconsin. For this report address State Board of Public Affairs, Madison, Wis., for which the study is being made. The methods and results of municipal research in its home city have been succinctly stated and described in a pamphlet issued in January, 1911, by the New York bureau entitled, "Six Years of Municipal Research for New York City." I am authorized to state that copies of this bulletin may be had by addressing the editor of THE ANNALS, or the Bureau of Municipal Research, 261 Broadway, New York City.

Among the larger benefits of the municipal research method that may be duplicated in kind by any city whose public and private agencies will use the same methods should be noted:

1. Establishment of the principle *that the majority has no right to impose wasteful and incompetent government upon the minority*—through the removal by Governor Hughes of Borough President Ahearn on evidence of incompetence and waste first furnished by the bureau, and the later removal of two other borough presidents on evidence from commissioners of accounts and taxpayers agencies.
2. Reorganization of the department of finance with notable improvements in its methods of inspection, audit, payment, collection, reports, etc.
3. Accounting revision for all city departments with beginnings of time sheets and service records as the basis for auditing pay rolls.
4. Budget reform, budget exhibits, budget publicity, budget conferences of social workers, clergymen and taxpayers.
5. Conversion of the commissioners of accounts' office from a handicap to civic progress into a potent agent for efficiency and honesty.
6. An increase of \$2,000,000 a year in revenue due to the reorganization of water collection methods.
7. System and economy substituted for waste and chaos in the repairs and stores methods of the water department and in the purchasing and repair methods of the police department.
8. Establishment of a bureau of child hygiene in the department of health and the extension of its work for school children and infants.

9. Cessation of many slaughter house evils through more efficient inspection by the Department of Health.

10. Recovery of \$848,000 from street railway companies for paving done at public expense between the companies' rails, and suits pending for \$175,000.

11. Correction of abuses in connection with street assessments.

12. Projection of official inquiries into teachers' salaries, standardization of supplies, standardization of salaries and grades, school efficiency, health efficiency, etc.

13. "Corporate stock budget" by which requests for permanent improvements are systematically analyzed and compared with one another and with actual needs, substituted for the sporadic voting of capital charges without regard to need or plan.

14. Early and continued listing of dangers to the city's business methods threatened by the various revised charters of 1911.

15. Questions and facts were presented regarding the city debt which were used by all sides of the city debt controversy and led to permanent settlement of forty-three doubtful questions.

16. Ten million dollars released for reduction of taxes in 1912, by reconciliation of comptroller's and departments' books.

17. The bureau furnished the chairman of the first and second Greater New York Conference on Summer Care of Babies.

18. Investigation of the city's relation to private charitable institutions receiving city funds and to juvenile dependency, leading to sweeping revision of methods by private institutions and by the city.

19. The reorganization of public works, Manhattan saving in two years a million dollars and greatly increasing the quality and quantity of work.

20. Investigation by the commissioner of accounts which led to the removal of Borough President Haffen of the Bronx and to reorganization of his office.

21. For six years aldermanic and Board of Estimate officers have acted upon results of bureau investigations into innumerable proposals, frequently resulting in the abandonment or serious modification of proposed appropriations.

22. Budget-making committees of the Board of Estimate and apportionment have for five years used the bureau's services in studying estimates, drafting questions, etc.

23. The facts, as given by a citizen, on which the plot to sell the city \$700,000 worth of dirt was thwarted and the landscape architect removed, were confirmed and presented by the bureau.

24. Inclusion in all charter revision reports of numerous provisions based upon the bureau's suggestions as to business organization and procedure.

25. A study of tenement house administration through a contribution of \$10,000 by Mr. George H. F. Schrader, which helped secure increased appropriations for removing dark rooms, school sinks, etc.

26. Inclusion of dock department expenses in the annual budget, with a saving the first year of over \$400,000.

27. The publicity work of the Committee for the Reduction of Infant Mortality in connection with the milk stations and infant mortality in the summer of 1911 was conducted by the bureau at the committee's expense.

28. A general acceptance of the proposition that by studying official acts and community needs between election times citizens can guarantee continuous efforts for civic and social betterment.

29. City government is more generally seen to be inevitably either a help or a hindrance to church aims, philanthropy, education and business, according to the attention given to government by churchmen, philanthropists, educators and business men.

President McAneny said at a municipal efficiency dinner, January 4, 1912:

" . . . I might mention a long . . . list to illustrate what can be done upon the administrative side, but I repeat that nine-tenths of it has been the work of the Bureau of Municipal Research and of men within the service who have been inoculated with their ideas, with their enthusiasm, and who have accepted service under me and have worked with them all in the same general direction and with the same general purpose."

On the same occasion Comptroller Prendergast said:

" . . . We want that kind of intelligent criticism. We want it to go on and on and we want the unthinking part of the public to understand the real function of this institution that is trying to build up a better city for all the people."

On the record, of which the above gains are but partial indications, a National Training School for Public Service has been started and is being conducted by the bureau. After examination of these same results by comptrollers, mayors, public-spirited citizens and officials, the administrative research method is now being applied in cities throughout the country by numerous organizations, within and without city and state governments, such as chambers of commerce, taxpayers organizations, women's clubs, boards of aldermen. For example, Comptroller Taussig, of St. Louis, secured a fund of \$25,000 a year for installing an efficiency bureau in his office and put at the head of it Mr. Peter White, who worked in St. Louis first as a representative of the Bureau of Municipal Research in its charter study for the St. Louis Voters' League.

Three other results due to the success of municipal research in New York, Cincinnati, Cleveland, Chicago, etc., which are of inestimable value are:

1. Change in the attitude of accounting houses toward municipal accounting and corresponding increasing demand from municipalities, state and national departments for accounting or efficiency service.
2. Notable change in the attitude of public officers and employees toward their work. Experience has proved now that the public will discriminate between efficient and inefficient service if facts proving efficiency or inefficiency are given to the public. Under the spotlight of publicity respecting methods and results, a new type of man gains leadership in public office; namely, the man who can "make good" to the public. Formerly, the man who was fittest to survive was the man who "made good" with the outside powers of politics, contractors, etc.
3. Universities and technical schools and high schools too, so fast as concrete facts are supplied, will change the content and method of instruction in government so as to prepare students for efficient citizenship between election times.

To launch this program has cost public-spirited men and women in New York \$460,000 since 1906. Citizens in Philadelphia, Cincinnati, Chicago and Memphis have spent \$250,000. The President's commission on economy and efficiency has spent roughly

\$200,000. But the near million dollars thus far spent in municipal research is small compared with the millions that are being spent by government agencies in applying efficiency tests to public business, and is a mere bagatelle compared with the hundreds of millions of dollars that are now being spent in a sincere effort on the part of officials and employees to serve the public efficiently.

Municipal research is a method, not a panacea. It aims not to make over either the man in office or the men who vote, but to give men as they are better methods of working for the public and to give the public as it is better methods of watching and judging what their public servants do.

There is not a city in the country where the majority of voters want inefficiency, waste and dishonesty. There is not a city where the majority do not resent incompetence, waste and dishonesty, whenever and wherever they can see it. Municipal research will put a premium on efficiency and economy wherever it is so financed, and so equipped with experts, that it can keep alive, between election times, interest in the reasons for good government and can provide non-partisan, non-political, continuous emphasis upon the requirements, methods and results—as distinct from the personalities and politics—of public business.

THE OUTLOOK FOR MUNICIPAL EFFICIENCY IN PHILADELPHIA

BY JESSE D. BURKS, PH.D.,
Director, Bureau of Municipal Research.

The mayoralty campaign of 1911 in Philadelphia was conducted, by both of the leading candidates, upon the platform of business economy and efficiency. There were charges of graft and corruption, and appeals to political regularity; but, in the main, the interest of voters was focused sharply upon administrative problems—business organization; the development of public works; the use of the city's credit; the protection of public health; the promotion of education; the purchase of supplies; the control of contract awards; the selection of efficient personnel for public service; the elimination of waste and inefficiency.

Hon. Rudolph Blankenburg, the successful candidate, made his appeal to the electorate of Philadelphia on the issue of "a clean, progressive, constructive administration." In the brief and trenchant "platform" which he issued as a campaign document, he laid stress on the following principles: "Only one favored contractor—the lowest possible bidder; one hundred cents return for every dollar expended; no illegal or wasteful use of city funds; current receipts must pay current expenses; new loans for permanent improvements; fitness, not party service, the first consideration for appointment to office; sound education, combined with moral, physical, and technical training for children. Commodious schools, healthy surroundings, ample playgrounds, and all attainable elements that will promote happiness and foster citizenship."

The principles embodied in this brief platform were reiterated, amplified, and given concrete interpretation during the progress of a campaign notable for its vigor and for its emphasis on community needs, community opportunities, and citizen responsibility, rather than for its appeal to personal prejudice and partisan motives. On the day following the election, the mayor-elect committed himself anew to a program of municipal efficiency by stating publicly:

"Every pledge I made in my campaign will be strictly carried out. The people know me, and they know that I will do as I say."

By explicit statement and by the whole tenor of his campaign appeal, therefore, the present mayor of Philadelphia has invited the community to look for that oft anticipated and seldom realized ideal—a well managed city government. Furthermore, the course pursued by the mayor during the first three months of his administration has still further confirmed the expectation and confidence which his pre-election pledges aroused. As heads of the municipal departments, he selected five men of rare administrative and business qualifications. Unhampered by political affiliations, each of these directors has a free hand, within his legal powers and financial resources, to conduct the affairs of his department in the interest of efficient public service. As a unit, these executive chiefs are committed to the mayor's program of business administration. Changes in the personnel of the municipal service, it is generally conceded, have been made in the interest of efficient service rather than of political advantage.

The present situation in Philadelphia, therefore, presents most of the factors commonly regarded as the necessary elements of an efficiency program. These are: first, a mayor of energy, intelligence, and unquestioned integrity; second, charter powers of unusual scope which make it possible for the mayor to exercise effective leadership in the management of the city; third, executive officials free to pursue their policies without the restraints of partisan political alliance; fourth, executive heads of departments of high ability, each free to administer the affairs of his department solely with a view to economy and efficiency of service; fifth, a civil service commission definitely committed to the "merit system" as the method of selecting municipal employees; sixth, the confidence and optimism of a large proportion of the substantial citizens of the community.

As commonly follows such an outcome of a "reform movement," the great majority of citizens who sincerely desire efficient municipal government in Philadelphia assume that these six factors will insure "good government" for four years, at least. They assume, furthermore, that having performed their functions as voters, little responsibility rests upon them, for the coming four years, but to enjoy a sense of civic virtue and security, and to applaud occasionally the achievements of their thoroughly competent officials.

So far as integrity, worthy intentions, and high ability of officials can insure good government, this confidence of citizens is doubtless well placed. The fallacy lies in the assumption that official integrity, purpose, and ability alone are a guarantee of efficient city management; that citizens have no part in municipal government between election times; that officials can and will work to the best advantage without the stimulus and support of an informed, alert and exacting citizenship.

A situation in many ways similar to that which now exists in Philadelphia occurred in New York in 1901 when, after a strenuous and exciting campaign, the people of that city elected Seth Low as their mayor. In a recent contribution to the *North American Review*, Mr. R. Fulton Cutting, who, as leader of the Citizens' Union, was largely responsible for the election of Mayor Low, makes the following significant comment upon the results of the Low administration:

"He brought to this high office capacity, integrity, industry, and wide experience. He selected subordinates for their specific qualifications and high character. The two years of his administration set a new standard of official morality, but in economy and efficiency it failed to realize public expectation. It was compelled to operate with a business system obsolete or framed to mislead rather than to enlighten the responsible officials. The great body of employees, largely protected by a civil service law and unsympathetic with reform, made no effort to hold up the hands of the department heads. These in turn, because responsible for the conduct of daily business and occupied with large policies, could not devote themselves to the reorganization of a force of fifty thousand unwilling employees. The wonder is that Mayor Low accomplished what he did in his short but memorable administration. His mayoralty, however, conclusively disclosed the insufficiency of reform by the ballot. The man without the machinery, animated by the noblest ambitions, is compelled to pursue them with an antiquated, rusty, unreliable mechanism that paralyzes progress."

In Philadelphia to-day, as in New York ten years ago, we have a group of officials facing administrative problems of great complexity and difficulty—handicapped by an administrative organization and methods of conducting business that make it all but impossible for these officials to satisfy the public expectation. It is as

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if, in an age of rapid-fire guns and high explosives, an army of brave, strong men were sent forth to battle, equipped with blunderbusses and wet powder.

In most of the city departments and bureaus, the organization is such that newly appointed administrative officers find it difficult or impossible to ascertain the exact powers and duties of the several units in the organization. Clear definitions of functions and authority do not exist; and until the official, by a long and tedious process of direct experience, has become familiar with the organization with which he is expected to work, he is not in position to readjust functions, to do away with conflicts and inconsistencies, to centralize and definitely locate responsibility, and to place each officer and employee in position to render his most effective service. And, by the time an administrative officer has become familiar with the problems involved in a reorganization of his office, he may have reached the close of his term of office, only to pass on to his successor the same handicap of defective organization which he himself inherited.

Commenting on the organization of one of the most important bureaus of the city government, one of the recently appointed departmental directors in a letter to the Bureau of Municipal Research says: "I find this bureau in a very demoralized condition, and absolutely lacking the primary elements of an organization. There is no one part of its work, as I found it, that even approximates a satisfactory condition. We now wish to get down to the details of work and provide something like system. Not having any available material to help me in this work, I find it necessary to solicit outside help, and will greatly appreciate the favor if you can see your way clear to assist me in the matter suggested."

Assuming, then, the great advantage of "good men" in office, the outlook for municipal efficiency depends first upon the extent to which the details of organization—of the division, distribution, and co-ordination of functions—can be studied and the results utilized in reframing the functional structure of the municipal departments, bureaus, divisions and offices. A second element, of like importance, is the need for efficient methods of performing the various functions for which the municipal organization is constituted.

Administrative officers in Philadelphia, as elsewhere, are handicapped by archaic methods of doing work that have long since been

discarded in well managed private business. Tax rolls are laboriously copied by hand in triplicate, instead of by typewriters and carbon process. Bills for taxes and water service are deliberately written out "while you wait," instead of pre-billed and filed for instant reference. Highly paid officials spend time in signing individual vouchers, pay rolls, and warrants, instead of having such documents listed on schedules that will permit of a single signature where the entire list is to be approved. Each department or office employs a different classification of appropriation and expenditure items, which makes impossible a compact summary statement of the city's financial transactions showing functions performed and cost incurred for each function. Methods of carrying on milk inspection, tenement house inspection, and medical inspection of school children, make it difficult for officials or citizens to see clearly the results or the cost of work undertaken, or work done. Methods of preparing financial estimates, of considering these estimates, of formulating and voting the annual budget of appropriations make it impossible for citizens, taxpayers, or officials themselves to get a clear picture of the financial and social program which the budget is assumed to embody, and to exercise their best judgment as to the relative values of proposed items of expenditure.

Efficient management obviously depends upon accurate, complete and prompt information; making available to the administrative officer in usable form the details of past experience, of present activity and of proposed plans. The most serious obstacle to an efficiency program in Philadelphia is the lack of concrete facts as a basis for judgment. The Chief of the Bureau of Highways finds it impossible without special and costly inquiry, to get such simple facts as the number of miles of paved streets, the extent of repair work urgently needed, or a list of highways which contractors have agreed to keep in repair for a specified time. The Director of Public Safety finds it impossible to determine precisely what duties are performed by the various divisions of the police force, what work is being done to prevent fires, or what functions are performed by the electrical bureau. The Director of Public Health has no ready means of determining what number of those defects found by medical inspectors among school children have been corrected; the cost of service in the general hospital; or the number of babies born during a given year. The mayor cannot possibly ascertain at any desired

time what the city owns and what it owes, what funds from revenues and from loans will probably be available during his administration, or what specific economies may reasonably be anticipated in his program for reducing operative costs.

Potentially, the most important source of information as well as the most effective instrument of financial control is the city budget. A single typical item from the financial estimates of Philadelphia for 1912 illustrates the obstacles which indefinite, unanalyzed, and therefore unintelligible financial statements offer to open-eyed, efficient management. Item 20, of the estimate of the Bureau of Highways and Street Cleaning reads as follows: "For repairing, altering, and extending sewers and inlets, trapping and retrapping inlets, and cleaning sewers, \$75,000."

It is obviously impossible to determine from this statement what part of the \$75,000 is requested for the various kinds of work named; to determine whether the proposed work is to be done by contract or by direct labor; and if by direct labor whether the amount named is to cover labor or materials or both. On inquiry and analysis, the item breaks up into the following elements:

Foremen, five at \$1,200.....	\$6,000
Sewer constructor.....	1,500
Bricklayers, four at \$5 per day (303 days).....	6,060
Laborers, at \$2 per day (6,070 days).....	12,140
Driver with team and vehicle at \$6 per day (1,600 days),	9,600
Contract work.....	39,700
	\$75,000

Within this single item then, as it originally stood, are included requests for salaries, wages of regular employees, wages of temporary employees, and work on contract.

Ambiguity similar to this in many items; lack of uniform classification as to "objects of expenditure" in the estimates and appropriations; absence of any satisfactory and consistent grouping of items under such functional headings as "administration," "inspection," "operation," "maintenance," and "construction;" and unsatisfactory typographical arrangement seriously limit the important purposes which the Philadelphia budget might serve. It is, in fact, not uncommonly regarded as a grab-bag of individual and unrelated appropriation items. It cannot be summarized in such a way as to

focus the attention of citizens, executive officials, or councils on the city's program as a whole as well as upon details of the program. Thus, in many ways, the budget obstructs rather than facilitates the consideration of questions of municipal policy and stands between the community and its responsibility for deciding what it will do through the municipal government, to protect and promote the welfare of 1,500,000 citizens whose interests are at stake.

Such defects in organization and administrative methods as those described are, of course, not peculiar to Philadelphia. They are not limited by latitude, longitude, or climate; but are found in all cities where force has not yet broken down the fallacious notion that for some mysterious reason municipal business methods must differ from methods in well administered private business.

The purpose of directing attention to these defects is not to suggest a pessimistic outlook for municipal efficiency. It is rather to suggest the futility of a vague, uncritical confidence that does not face squarely the details of constructive work involved in any real efficiency program; and to suggest also the unreasonableness of much of the criticism aimed at officials who, because of inadequate machinery and slovenly methods inherited from the past, fail to satisfy the demands of well meaning but uninformed citizens.

Philadelphia officials clearly realize that the measure of their achievement is to be the success with which they meet specific problems and that success depends, in large measure, upon the intelligent support of citizens. The mayor has asked and is receiving the co-operation of volunteer citizen commissions. Departmental officers are seeking expert advice and service wherever it is available. Civic and philanthropic bodies having proposals backed by facts are encouraged and invited to co-operate with the government in the study of community needs and the solution of community problems.

Assuming, then, that the chief obstacle to a municipal efficiency program lies not in unwilling or incompetent officials but in defective administrative machinery; and assuming also the readiness of officials to accept intelligent criticism and co-operation, the main burden of responsibility for continued failure rests upon citizens rather than upon officials.

The varying fortunes of political parties and of individual

office holders make it difficult and uncertain, even for an officer of clear purpose and high ability, to work out a progressive and continuous program for the improvement of a public office. An independent citizens' organization, on the other hand, having a permanent and continuous program, is able to gather up the results of policies and methods pursued under successive administrations, and in various departments; to subject these to critical analysis and comparison; to establish administrative standards; and to make these available to an officer at the threshold of his term of office, as a basis for a prompt and clear understanding of his administrative problems and of the methods best adapted to their solution.

This is precisely the program of municipal research. During three years, the Bureau of Municipal Research of Philadelphia has worked in constant and active co-operation with city officials, including the mayor, the controller, the Board of Education, the chiefs of the numerous bureaus and the directors of most of the city departments. Muck-raking has been no part of the Bureau's program, although facts, even when disagreeable or discreditable, have been impartially laid bare to officials.

In his paper on Philadelphia's accounting system,¹ Controller Walton describes the reorganization of the city's accounting system which was undertaken with the co-operation of the Bureau of Municipal Research.

The city now has the central core of an accounting system that will stand comparison with that of any modern industrial or commercial enterprise. Important steps have been taken which enable the Controller, through compactly formulated balance sheets, to exhibit currently the city's assets and liabilities; its revenues and expenses; and the condition of each fund with respect to balances available for appropriation, reserves set aside for contracts, and unexpended balances. In connection with this accounting revision, an inventory of the city's properties was taken for the first time; over \$250,000,000 of city property, being placed on the Controller's books, and provision made for current additions and withdrawals necessary to keep the inventory up to date. Statements in separate balance sheets showing assets and liabilities that apply to the city's current operations, and those that apply to capital operations involving the acquisition of permanent properties, enable the official or taxpayer

¹See page 64.

to see at a glance the financial results of these two distinct classes of transactions.

The Controller is now planning, with the co-operation of the Bureau of Municipal Research, to extend this system of accounts into all departments of the city government and thus to bring under central accounting control the current transactions of every department from the time liabilities are first incurred to the time they are finally discharged; and to give similar control over miscellaneous revenues as they accrue. Such a system of accounts, by furnishing currently, promptly and exactly the important details concerning the city's business, not only gives the Controller the means of effective control over receipts and expenditures, revenues and expenses, properties and liabilities; but, by providing the basis for properly classified and summarized information regarding the cost of every municipal department, activity or enterprise, the completed system of accounts will furnish the only safe starting point for a municipal program of economy and efficiency. It will make it possible for administrative officers and citizens to apply fact-standards in place of opinion-standards in the consideration of municipal problems.

Standardization of medical inspection methods has enabled the Bureau of Health to get physical defects of school children corrected, where formerly they were only reported and registered. Standardization of school census methods has given the Board of Education accurate information in place of unreliable guesses as to what children should be in school and what children are actually there; and, incidentally, by giving an accurate census, increased by \$75,000 per annum the city's portion of state school funds.

A study of the milk inspection service of the Bureau of Health resulted in radical changes in method, more stringent standards of temperature and cleanliness, and a marked improvement in the milk supply of the city. Closely related to this was the establishment of the division of child hygiene, with its corps of visiting nurses; the opening of outdoor hospitals and milk stations on recreation piers; the report of the mayor's milk commission; the holding of the milk show; the opening of the Babies' Hospital; and the reduction, by thirty per cent, in the deaths of infants under one year old in Philadelphia—a saving of 1,110 infant lives in the first eight months of 1911.

An investigation of weights and measures disclosed the utter

lack of municipal control and a tremendous loss to citizens through short measure; laid the foundation for an effective state law; and opened the way for municipal supervision of weights and measures.

A co-operative study with the department of supplies has brought out the vagueness and the ambiguity of specifications which has discouraged competition and made possible favoritism. A beginning has been made of standardization of specifications which will eventually result in immense financial saving to the city.

An investigation of business method of the Bureau of Charities showed that the city was being systematically defrauded and the inmates of the charitable institutions furnished with food and other supplies of definitely low grade. Conflicts in authority, ill-defined responsibility, and other serious defects of organization were shown to exist; and the plan under way for developing the city's charitable institutions shown to be ill considered, inadequate and wasteful. Plans for reorganization were submitted and are now being worked out by the director through a newly appointed superintendent.

A revision of the financial estimates of all city departments for 1912 was formulated as a tentative basis for a city budget that will lend itself more readily to intelligent consideration by councils, the mayor, citizens, taxpayers and the public press. The items in the estimates of all departments were reclassified on a uniform basis; each item being made so definite that its purpose is unmistakable, and the way thus opened for the adoption of a budget that shall present a well defined financial and social program for the community and an instrument of effective financial control in the hands of councils and the city controller. The mayor, his department heads, the controller and many members of councils have given their approval to the proposed financial plan, and there is strong assurance that it will be put in operation next year.

By far the greater part of the information obtained in such investigations has been submitted confidentially to officials without publication. It has been found that the co-operation of officials might best be enlisted in this way. Officials have uniformly shown a willingness to use the information and constructive suggestions thus submitted, for correcting defects in administrative methods. The Bureau of Municipal Research has assumed that the public official should be permitted to take credit for measures intended to raise the efficiency of the public service, rather than be subjected

to public criticism for waste, inefficiency and infidelity due to un-businesslike organization and methods.

Shortly before the close of the recent mayoralty campaign the Bureau of Municipal Research submitted to each of the nominees a series of proposals as to definite steps which its study of the business management of the city has shown to be possible and desirable. It was suggested that a statement from the candidates concerning all or any of the proposed steps would be of timely interest to citizens and taxpayers "whose final rating of Philadelphia's next mayor will depend upon specific forward steps taken, specific things avoided, specific conditions corrected, specific needs neglected, specific opportunities realized."

A summary of the proposals and responses will define more clearly the outlook for municipal efficiency in Philadelphia as it appears to the Bureau of Municipal Research and to men whose responsibility and interest is the actual administration of the city's business. The statement submitted to the candidates was substantially as follows:

What Philadelphia Expects of Her Next Mayor

Philadelphia's expectations as regards her next mayor are unusually high, unusually definite, unusually exacting.

It goes without saying that Philadelphia expects her next mayor to give the city an "honest and businesslike" administration. But citizens are every day coming to see more clearly that "business-like administration" means a good deal more than meeting a few so-called "issues," in spectacular fashion; that it means solving, day in and day out, innumerable definite problems that call for clear knowledge, prompt decision and effective action, as well as public spirit and honest intentions.

Unrealized expectations mean a discredited next mayor. In fairness to her next mayor, therefore, and in the interest of her own clearness of vision, Philadelphia should formulate some statement of the community needs which she wishes to have met; of the specific things she wishes to have done or not to have done; of the specific tests which she proposes to apply to her mayor during the next four years.

As an agency of citizen inquiry and co-operation, the Bureau of Municipal Research emphasizes the obligation resting upon citi-

zens as well as upon officials to inform themselves promptly, regularly and accurately as to what acts are performed, what service rendered, what results accomplished, and what expense incurred; so that responsibility may be clearly fixed; economy, efficiency and fidelity encouraged; waste, inefficiency and dishonesty eliminated.

With this end in view, the Bureau of Municipal Research will use its resources to get facts, to locate defects, and to find the steps necessary to correct defects. It will place the results of its inquiry at the disposal of Philadelphia's next mayor, and endeavor to enlist the support of citizens and taxpayers in every step he takes toward economy and efficiency in the public service.

Some Things Philadelphia's Next Mayor Must Do

1. He must appoint five efficient or inefficient heads of departments to direct the operation of twenty-two bureaus and offices expending about \$23,000,000 annually.

2. He must enforce discipline, or encourage indifference among 7,000 city employees with a pay roll of \$8,500,000.

3. He must set the pace, determine the point of view and sense of responsibility of departmental officials and employees who will be quick to see the spirit and business methods that dominate the mayor's own office.

4. He must prescribe a high or a low standard of qualifications for officials and employees to be named by department heads for positions exempt from civil service regulations.

5. He must determine whether investigations by the mayor's bureau of contracts and statistics shall be thorough or superficial, partial or impartial, useful or useless; whether the results of such investigations shall be made public, or pigeonholed, and whether the findings shall be acted upon or ignored.

6. He must determine the secrecy or the publicity with which each city department conducts public business.

7. He must protect and strengthen, or neglect and weaken the city's credit.

8. He must determine the kind of evidence that he will require as basis for approving or disapproving specific items in the annual budget as passed by city councils.

9. He must determine the basis upon which he will approve or disapprove specific items in ordinances authorizing the issue of

bonds. (Bond issues amounted to \$5,000,000 in 1910 and \$12,650,902 in 1911.)

10. He must control or fail to control the content, distribution and cost of city advertising, for which \$104,524 is requested in the estimates for 1912.

11. He must determine whether the city shall be protected or defrauded in the purchase of real estate, by demanding or failing to demand appraisals by disinterested real estate experts, and other evidence as to value, fitness, urgency of need and availability of alternate sites.

12. He must expedite, ignore, or obstruct the work of the city controller looking toward a progressive revision of the city's business methods—including a reorganization of the accounting system, effective audit of bills against the city, and independent inspection of supplies, materials and work.

To the mayor, as the business head of the government, Philadelphia looks for intelligent direction of a community program, the heads of departments being his representatives in their several fields. Philadelphia, therefore, will not distinguish sharply between results which her next mayor can accomplish single-handed and those in which he will need the co-operation of other officials.

Some Opportunities Open to Philadelphia's Next Mayor

1. Provide that departmental estimates for annual appropriations be prepared and summarized as parts of a clearly defined community program, so formulated that citizens and taxpayers as well as councils may see what is proposed by the administration to meet community needs.

2. Afford full opportunity for discussion by citizens, civic organizations and the press, both before and after the action of councils, of the community program presented in the estimates.

3. Focus the attention of councils, executive officials and citizens upon the annual budget as a whole, as well as in detail, so that it may be looked upon as the embodiment of a definite program to be executed by the administration rather than as a mere aggregation of unrelated appropriation items.

4. Formulate plans which will enable the city to meet each year's expenses out of revenues, instead of financing expenses out of loans or handicapping the city by an accumulating deficit.

5. Devise and carry into effect, with modifications of law if necessary, a plan that will enable the city to make full provision at the beginning of each year for the total estimated expenses of the year, and to fix the tax rate, after such annual financial requirements have been determined, so that this rate will provide the exact amount of the authorized expenditures.

6. Include in the annual financial program of the city definite proposals for public improvements to be financed through loans, so that these may not be confused with current expenses.

7. Include in the city plan a comprehensive program for service affecting health, education, recreation and safety, as well as a constructive plan for material improvements.

8. Invite the co-operation of informed civic and charitable agencies in picturing the community's needs as a basis for formulating the annual budget.

9. Discourage the maintenance of unduly large city deposits in banks, and provide adequate safeguards for city deposits.

10. Assist the controller in every possible way in working out an effective system of accounts and records by which citizens, department heads, and the mayor himself may at all times have prompt, complete and accurate information concerning community needs met or not met, work done or not done, results produced and money spent.

11. Protect and strengthen the city's borrowing credit so that its bonds issued for land and permanent improvements may always be sold at the most favorable rates.

12. Promote the city's trading credit so that supplies, materials and equipment may be purchased to the greatest advantage.

13. Establish exact standards and specifications for supplies and materials to be purchased so that the city's agents and the public alike may know just what has been or is to be bought, at what advantage or disadvantage to the city.

14. Require that the department of supplies be organized and conducted as a highly efficient modern business enterprise, giving to the city the benefit of central buying; to departments the benefit of prompt action; and to dealers the benefit of prompt settlement and businesslike treatment in the city's purchase of \$3,000,000 of supplies annually.

15. Secure independent inspection, by a properly equipped

bureau under the city controller, of materials and supplies furnished to the city; of service rendered; and of construction work in progress.

16. Require the mayor's bureau of contracts and statistics not only to keep the mayor informed concerning the condition or completeness of work, but to study and to report systematically upon methods employed, expense incurred and results obtained; and to report systematically and promptly to city officials information needed for efficient administration.

17. Insist that all city contracts shall be drafted in language that will clearly set forth the respective rights of the contractor and the city; that will make possible little or no change in requirements set forth in the contracts; that will leave as few requirements as possible open to the discretion of department heads; and that will thus encourage the freest competition among bidders.

18. Promote the efficiency of city employees by working out an efficient system of selection, promotion and remuneration; and providing current records of work done and results accomplished that will not only encourage but protect each employee by enabling him to "make a record" for himself.

19. Enforce strictly the present civil service rules, or, so far as they are defective, secure their modification; and provide that the Civil Service Commission shall include in its annual report a complete roster of civil employees.

20. Increase the economy and efficiency in the public service by systematically studying organization, methods and results in each branch of the service, and providing the means whereby the city's business may be directed and controlled with the highest intelligence.

21. Plan for a bureau of licenses in which may be centralized the issue of all licenses and permits which are now handled in seven different offices.

22. Secure the proper publication of department reports; standardizing reports so that they may conform to the highest typographical, statistical and editorial requirements.

23. Extend the scope of the municipal journal "Philadelphia;" utilizing it as a means of bringing currently and promptly before officials, citizens and taxpayers a summary record of accomplishment, of work in progress, and of projected plans of every department of the public service.

24. Maintain a bureau of information in connection with the mayor's office through which citizens shall be encouraged to make inquiries, to submit complaints, and to propose improvements in the public service with assurance of prompt, intelligent and effective attention by the mayor.

25. Call a conference, at least once each year, with responsible city officials of neighboring cities in Pennsylvania, New Jersey and Delaware which affect or are affected by Philadelphia's policies relating to health and sanitation, transit facilities and public improvements.

Both of the candidates responded in practically the same vein, endorsing strongly the program proposed as a basis for municipal efficiency and economy. Three paragraphs from the reply of Mr. Blankenburg's letter show his thorough-going acceptance of the proposals:

"I know of no agency that can be of greater service to the next mayor of Philadelphia than the Bureau of Municipal Research. The interest which this body of men has taken in our municipality has always been a source of gratification to me. Bureaus of municipal research have proved of invaluable service to every city where they have been established; yours should be one of the mainstays of the new administration.

"Definite knowledge of problems and issues that may present themselves should, in my opinion, be gathered from reliable sources so that intelligent action may be possible. We should not undertake more than we can honestly accomplish. If elected, I shall welcome plans and suggestions for a great and better Philadelphia from your body and other organizations, as well as from private citizens; and shall give them not perfunctory, but earnest and effective consideration.

"Publicity is, perhaps, the greatest agent for good. The public is entitled to full knowledge of all the activities of the various city departments; the progress of work under consideration; the expenditures made and still contemplated."

On all sides there are evidences of a changing point of view and a new emphasis in the civic development of Philadelphia. A community program rather than a partisan program is more and more dominating the thought and action of citizens and taxpayers. Admin-

istrative machinery rather than political machines is being recognized as the means through which civic power may most effectively be applied. Intelligent methods of managing municipal activities rather than skillful methods of manipulating personal "pull," are being accepted as the effective means of getting the best out of municipal machinery. The obligations and opportunities of citizens and taxpayers are every day being interpreted in larger terms; and applied not merely to the few intense weeks immediately preceding an election, but to each of the 365 days of four years between elections, when citizens may ask questions, demand evidence, appraise results, and measure cost with specific reference to the administrative machinery and administrative methods employed in the promotion and protection of the community's health, education, recreation, convenience, business and general welfare.

THE CINCINNATI BUREAU OF MUNICIPAL RESEARCH

BY RUFUS E. MILES,
Director.

Other than to carry out the general purpose of municipal research, and to apply its methods wherever necessary and possible, the Cincinnati bureau began its work in July, 1909, with no pre-conceived program. Its general purpose, in common with other bureaus, was stated briefly in the following words: "The purpose of the bureau is to conduct an entirely non-partisan study of the methods and work of the several departments of the city government, with a view to recommending such modifications and improvements as it believes to be of advantage; to do whatever it can to promote efficiency and economy of municipal administration; and to furnish citizens with the facts of public business."

As it was obviously impossible for the new bureau, with the limited funds at its disposal, to cover the whole field systematically from the beginning, work was begun with two departments through which to demonstrate the value of municipal research methods. The departments selected were those of Parks and of Health: the former for the purpose of demonstrating improved accounting methods; the latter for the purpose of demonstrating improved organization and service records.

Park Department.—The Park Department study included an investigation of the accounting system, the treatment of pay rolls, the purchase, inspection, storage, and care of supplies, and the collection of miscellaneous income. The fact was disclosed that the department was operating under a disconnected, uncontrolled system of single entry accounts, giving no basis for expense statements and, in several cases, confusing funds one with another in such a way that they could be separated only with difficulty. The department had practically no system of inspection of supplies, and consequently no means of knowing that it was receiving the full value for which it was paying. It had no idea of the quantity of supplies and materials at the storehouse and in the various parks, and had no accounting check on the waste or loss of supplies. It was purchasing in

such small lots that the office work was greatly increased, and the economy resulting from buying supplies and materials in large quantities was almost entirely lost sight of.

A full report, outlining a comprehensive plan of reorganization, was submitted to the Board of Park Commissioners, which thereupon passed the following resolution: "Resolved that the general accounting system as recommended in the communication from the Bureau of Municipal Research . . . be adopted and that the park manager be directed to proceed with its installation. . . ."

The system as installed provides the department with a business system of double entry books such as would be used by a first-class business corporation, and is similar to those already installed and in successful operation in the departments of New York City.

Upon the completion of the installation, the Board of Park Commissioners passed the following further resolution: "The system as installed is accepted and approved, and a vote of thanks extended the Bureau of Municipal Research for their assistance in the work."

Health Department.—The first work undertaken by the bureau in the Health Department was that of revising the methods of record-keeping. The necessity for such a revision will be seen from a few examples. Although it is obvious that no anti-tuberculosis campaign can be intelligently directed unless based on a careful registration system, the department was found to have no registration worthy of the name. No effective methods were employed for following up cases once reported, and, as no effort was made to check up the reporting of cases, there were fewer cases than deaths from tuberculosis reported every year. Similarly, notices served by sanitary officers ordering property owners to comply with sanitary regulations, lay in some instances for months and even a year or more without being enforced. To remedy such defects, the bureau designed a system of records. The tuberculosis registration system was modeled after that in use in the New York City Department of Health, though much simplified. By means of it, the department is now enabled to discover instantly whether a given case has been reported; when; by whom; whether the person is reported to be at home or in the hospital or sanatorium; if at home, whether or not under the care of a private physician; what the home conditions are, etc. If a physician reporting a death from tuberculosis has failed

to report the case when living, he is called upon to explain his failure. In the sanitary records, "tickler" devices were installed which automatically call to the attention of the central office any failure to inspect or reinspect at the proper time. Similar modifications were made in the records relating to general infectious diseases. The general purpose of these recommendations was to place the board and the health officer in possession of the information necessary to intelligent and effective control over their staff.

An investigation of the accounting system in the department led to a report urging the necessity for a reorganization along the lines already followed in the Park Department. The recommendations of the bureau were approved by resolution of the Board of Health, and the new methods installed.

Street Paving.—Before the Cincinnati bureau had been in operation more than a few months, and while the park and health studies were under way, it found a number of questions relating to street paving too urgent to be avoided. Property owners complained of new pavements being laid before they had finished paying the ten-year assessments on the old, which had gone to pieces. There was a general conviction that the pavements were not laid according to specifications, and that the prices were excessive. Nobody, however, seemed able to point out the exact difficulty, and the bureau was urged to investigate the whole subject.

The first inquiry bore upon certain wood block contracts which were being let to high bidders; in four contracts the 26 lowest bids out of a total of 41 were rejected, and the contracts awarded at a total figure of \$44,000 in excess of the lowest bids. The investigation of this practice led the bureau through many technicalities relating to the preservative qualities of various types of the so-called creosote oil used in treating wood paving blocks, the effect of free carbon in various percentages, the methods of testing, the proper distillation requirements, etc. As a result of its investigation, the bureau was brought to the conclusion that the high prices were entirely without warrant, being made possible by ambiguous and faulty specifications. It further appeared that, whether intentional or not, the effect of the specifications was to create a monopoly in wood block, all the contracts for over a year having gone to contractors using the product of the Republic Creosoting Company, of Indianapolis. These facts were presented to the city officials with a recommendation that

no further wood block contracts be let until the specifications had been revised. No attention was paid to this recommendation, and a quarter of a million dollar contract was let soon after at an excess cost of some \$30,000.

The bureau persistently maintained its opposition to the specifications, and its controversy with city officials continued for a considerable period, during which time the following reports were issued: Paving Report No. 1—Wood Block Contracts. Reply of Director Sundmaker to Paving Report No. 1 and Rejoinder of Bureau. Paving Report No. 2—Wood Block Paving: The Reading Road Contract. Paving Report No. 3—Wood Block Paving: Is High-priced Oil a Business Proposition? Paving Report No. 4—Wood Block Paving: Is High-priced Oil a Commercial Proposition? What Manufacturers, Dealers, and Experts say about the Cincinnati Specifications. Paving Report No. 5—What is being done on Reading Road: Reply to Chief Engineer's Communication to Director of Public Service *in re* Bureau's Paving Report No. 5.

Not only did the bureau find the wood block specifications thus defective, but a similar condition was discovered in the requirements for brick pavements. Under all the contracts let for some two years previously, the brick used had been the "20th Century," manufactured by the Fultonham Paving Brick Company. The monopoly seemed to have been primarily due to a clause in the specifications requiring the brick to be between two and a half and three inches wide. Nearly all manufacturers produce a paving brick or block between three and four inches wide, and declare it impracticable to alter their regular size in order to meet a slight demand for a width of less than three inches. It did not appear that the "20th Century" brick possessed especial advantages either in point of quality or in location of plant.

Finally, in March, 1911, after more than a year of controversy, new specifications were adopted by the city, covering all classes of pavements. The new specifications, while not beyond criticism, eliminated the above objectionable features. Other companies were able to compete successfully, and prices were reduced. The second revision, about to be put into effect by a new municipal administration, will reflect to a greater degree the bureau's recommendations. With the new requirements in operation, it is believed that the paving specification issue will have been brought to a close.

Not alone to the specifications was the bureau's attention directed; it also investigated the enforcement of the specifications in actual work. Aided by the contributions of property owners, the bureau placed inspectors on various important streets. A number of violations such as shortage of cement in the concrete mixture, substitution of slag cement for Portland, the use of poor materials, improper laying, etc., were discovered and corrected. In connection with the wood block controversy, the bureau made an effort to inspect the manufacture of wood blocks at the plant; but admission was denied to the bureau by the Republic Creosoting Company.

A sound paving policy requires not only proper specifications, well enforced; it also demands proper selection of pavements, and their replacement at the proper time, reasonably good and continuous repairs being assumed. The bureau has issued a report on the selection of pavements with special reference to economy, and an article by the bureau's engineer in the *Municipal Journal and Engineer* of January 18, 1912, suggests a formula which will be of interest to engineers for determining the proper time of replacement.

The bureau has therefore brought about a thorough revision of all paving specifications, thereby breaking up the monopolies previously existing in wood block and brick paving contracts. Prices, particularly for wood block and granite, have fallen appreciably; and had city officials heeded the bureau's recommendations when first presented, the city would have been the gainer by at least \$30,000. An actual saving of \$30,000 resulted from the enjoining of two contracts, upon evidence developed by the bureau.

Street Lighting.—In connection with the new ten-year street lighting contract, the bureau, in co-operation with several other civic organizations, was directly responsible for the revision of the specifications so as to include, especially, provisions for checking up the service rendered by the contractor, and provisions enabling the city to take advantage of any improvements in lighting methods, as well as provisions reserving to the city power to continue the use of gas if desired. It is believed that the public discussion of the terms of the contract was largely instrumental in reducing the prices, which, based on the approximate existing number of lamps, represent a decreased payment by the city of over \$60,000 a year.

Budget.—One of the conspicuous services of nearly all bureaus of municipal research is that of forcing upon public attention the

importance of the municipal budget. In the spring of 1910, the Cincinnati bureau presented to the mayor three recommendations:

1. That the mayor issue a form of departmental estimate providing for more information.
2. That the estimates of the various departments be made public as soon as received by the mayor.
3. That the mayor arrange one or more public hearings before he finally determined upon his budget.

These recommendations were not adopted in 1910, but when renewed in 1911 were approved by the same mayor. All departments were required to submit their estimates on uniform blanks devised by the bureau, which also provides for comparative data on past budgets and corresponding expenditures. When the estimates were received at his office, the mayor allowed them to be examined by anyone interested; and, before sending his budget to council, held a public hearing for the purpose of having department heads explain their needs and of receiving any suggestions.

This procedure was of value mainly in a preparatory way. Although the blanks were not in all cases completely filled out, the information furnished was much more extensive than formerly, and, in so far as utilized, could not have failed to assist the mayor's office in analyzing the estimates. The public hearing, characterized by the *Times-Star* as "the most representative body of citizenship seen in Cincinnati in many years," indicated a very considerable interest in the subject; and as citizens become better informed on municipal affairs, the opportunity to participate in the framing of the budget is bound to be increasingly taken advantage of. Co-operating with recently elected city officials who took office on January 1, 1912, the bureau conducted an investigation which enabled them to save approximately \$90,000 in the first semi-annual appropriation for 1912.

Classification of Municipal Expenditures.—Closely connected with budgetary procedure is the classification of municipal expenditures. If the city's accounts and financial reports are to show the cost of operating each branch of the various departments and kinds of work carried on, expenditures must be classified so as to set forth each department and kind of work separately, with the expenditures belonging to it. To secure the advantages of comparison, also, the classification of purposes of expenditure should as far as possible be

uniform for all departments, and the names of account headings should be concise and should represent classes of expenditures with well-defined limits.

The present classification of municipal accounts in Cincinnati is similar to that prescribed for all cities of Ohio by the Bureau of Inspection and Supervision of Public Offices, Department of Auditor of State, more generally known as the State Board of Uniform Accounting. Substantially the present classification has been in operation for some ten years; it often renders impossible even an approximate idea of the cost of city work, limits proper control over expenditures, and interferes with intelligent reporting. The Bureau has formulated and submitted recommendations for remedying these difficulties.

Deposit of City Funds.—On November 10, 1910, the Bureau of Municipal Research undertook an investigation of the deposit of city treasury funds to determine primarily how far the city (1) was being protected from loss, and (2) was obtaining the best rates of interest consistent with the necessary protection. A new ordinance, in the drafting of which the Bureau of Municipal Research co-operated with city officials, was passed in February, 1911. The first and more important object of the law has, in the opinion of the bureau, been on the whole well attained. While previously it was left entirely to the discretion of the city treasurer how much and what kind of security should be required, and in what banks and to what amounts the city's funds should be deposited, these points are now definitely provided for by the ordinance.

Higher rates of interest would, in the belief of the bureau, be secured (*a*) by amending the ordinance so as to provide for separation of active and inactive accounts, and (*b*) by reducing, if possible, the large cash balance in the city treasury. A term of one year instead of two is also advocated. To secure the first of these changes action by the legislature might be required; action of this kind was taken by the last legislature in reference to the county depository law.

Purchasing.—Under a new purchasing agent, a complete reorganization, largely along lines recommended by the bureau, has been begun of the methods of purchase and inspection of city supplies. All city departments now purchase through the central agency; current price records and files of dealers' catalogues are installed; supplies

are being standardized and bought or contracted for in large quantities, with consequent reduction in prices and greater facility of inspection; central inspection of supplies has already revealed many cases of failure to "deliver the goods." If the rate of saving already exhibited is maintained throughout the department's operations, the result of the current year's work may reasonably be estimated as a saving of upwards of \$100,000.

Other Work.—A considerable number of other studies are in progress at the time of this writing. Among these are:

Constructive plans for reorganizing the city's accounting methods, giving the auditor effective control, and centralizing most of the accounting work in his office.

Plans looking toward the amendment of state laws relating to municipal budgets and appropriations.

Efficiency study of the truancy department of the board of education.

Constructive plans outlining the establishment of new methods for caring for the city's dependent and delinquent children, in place of the present city institution known as the House of Refuge.

Co-operation in the reorganization of the Department of Buildings, especially providing for systematic inspection of buildings under construction or alteration, effective follow-up of all violation orders, and real enforcement of the tenement house regulations.

Study of methods of fixing the proportion of cost to be borne by property owners through special assessments, especially in connection with street improvements.

Conclusion.—It hardly needs to be pointed out that the rate of progress in work such as that in which the Bureau of Municipal Research is engaged depends in large measure upon the attitude of public officials. Where ready co-operation and a desire for improved methods are found, results are quickly secured. Where, on the other hand, a sustained opposition is encountered or a disinclination to change is maintained, the results are not as satisfactory and are obtained much more slowly, with greatly increased effort and expense. It is gratifying to the Cincinnati bureau to be able to say that its endeavors to assist the present city officials are welcomed, and with the co-operation now prevailing, a higher standard of municipal efficiency should be established in Cincinnati than has ever existed before.

THE MILWAUKEE BUREAU OF ECONOMY AND EFFICIENCY

BY J. E. TRELEVEN,
Secretary of the Bureau.

New as is the movement to secure efficient government through the application of the principles of business management to municipal affairs, the experience of those who have been engaged in municipal efficiency work has already demonstrated the value of such work. No two groups of investigators have followed exactly the same methods of procedure or have faced the same problems, but each has thrown some light on the causes of inefficiency in local government, and has added something to the ever-increasing knowledge of effective remedies.

The Milwaukee Bureau of Economy and Efficiency is unique among organizations which have been formed for the purpose of investigating municipal methods in that it is a public bureau, created by resolution of the Common Council and financed from the public treasury. The organization of the bureau late in 1910 marked the beginning of general efficiency work undertaken by the municipality itself. Although the bureau is a part of the city government, it is not organized as a division of any of the municipal departments, nor does it constitute a department by itself. It partakes rather of the nature of a special commission which was created to perform a definite piece of work and which, therefore, in its present form at least is a temporary organization.

The first plan proposed for a municipal investigation in Milwaukee provided for a social and economic survey of the city similar to the Pittsburgh Survey. Somewhat later a suggestion was made that cost-keeping systems be installed in the municipal departments. Still later it was proposed that a complete efficiency study of the city government be undertaken. The essential features of these three ideas were combined so that the bureau as created has three principal purposes, viz.: to study the social and economic conditions of the city and make recommendations for betterment; to investigate and improve the organization, accounting, financing, operation, and business practice of the several municipal depart-

ments; and to devise and introduce methods for determining the unit costs of the various operations.

The Common Council selected Professor John R. Commons, of the University of Wisconsin, to direct the work to be undertaken by the bureau and left him free to choose his associates and staff. Professor Commons, whose major interests have been in social work and labor problems, associated with him Dr. B. M. Rastall to direct the efficiency studies. Recently Mr. Leslie S. Everts, who as Deputy Comptroller reorganized the central accounting system of the city, became one of the directors of the bureau. There is a small permanent staff which has been augmented from time to time by the addition of special investigators. A special feature of the organization of the Milwaukee bureau is the consulting staff, which consists of a group of the foremost authorities in the country in accounting, engineering, organization, finance and taxation, sanitation and social work. These consulting experts have assisted in planning the work of the bureau, and have critically reviewed the reports of all investigations made.

From the outset the bureau has had the advantage of the co-operation of individuals and organizations interested in municipal affairs. The position of the bureau as a public body has led the heads of the administrative departments and their subordinates to take advantage of the assistance offered them, and by suggestions and criticism to aid the bureau materially in its work. The state commissions, such as the Railroad Commission of Wisconsin, the Wisconsin Bureau of Labor, the Wisconsin Industrial Commission, the Wisconsin Tax Commission, and the State Board of Public Affairs have given aid in the solution of problems in their respective fields. Such private organizations as the University Settlement, the Consumers' League, and the Wisconsin Anti-Tuberculosis Society have conducted social studies jointly with the bureau.

When the program of work for the bureau was mapped out, the comprehensive social survey at first planned was modified to a series of social studies, each of which should be directly related to some problem of state or municipal administration or legislation, and each of which should result in definite constructive suggestions for the betterment of social conditions. These investigations have been financed entirely aside from the public appropriation for the work of the bureau. Private organizations and citizens interested

in social work have made some of these investigations possible by giving the bureau the services of their trained social workers, and by meeting the necessary expenses of the work. The Bureau of Labor, which was engaged in special research in Milwaukee, gave the Bureau of Economy and Efficiency the authority, and turned over to it the means for completing the work.

The social survey is based on the theory that one measure of the efficiency of government is the extent to which it promotes the welfare of the citizens. Since year by year the scope of the activities of the municipality broadens to include new fields of social service, there is a constantly increasing need of careful study to determine how these social problems can best be solved. The bureau has not by any means exhausted the field of social study, but it has aided the cause of social betterment by suggesting solutions for a number of important problems.

An investigation of the conditions under which newsboys live and work was the basis for the enactment of a regulative law. A study of housing conditions, which showed clearly that present laws were not being enforced, led to the appointment of a special commission to make a comprehensive survey of the field, and to plan remedial measures. Investigations of infant mortality and the milk supply were followed by the appointment of a special committee to study the sanitary and economic aspects of the milk supply. A plan suggested by the bureau for giving free legal aid to indigent persons has not as yet been accepted by any organization. During a period of industrial depression in the spring of 1911, the Merchants and Manufacturers Association maintained a free employment office. The bureau made a study of this office and of other methods of securing employment for those out of work, which resulted in the reorganization of the State Free Employment Office. Investigations of women's wages and of the garnishment of wages were the bases for proposed legislation. As a result of a recreational survey proposed by the bureau and made by the School Board and the Child Welfare Commission jointly, the start has been made toward the logical and systematic development of recreational facilities.

In the efficiency survey the same general lines of procedure have been followed as in similar work in industrial corporations. To present a comprehensive view of the problems to be attacked

and to enable the directors to form their plans so as to secure the maximum results in the time allowed for the work, rapid preliminary surveys of the organization, legal requirements, accounting, and operation of all the city departments were run. These preliminary studies showed that department heads were handicapped in any effort to improve their departments by the lack of proper records and accounts, by antiquated office systems, and by legal provisions which made cumbersome methods necessary.

The organization charts prepared in connection with the preliminary survey showed that the internal organization of the departments was loose and poorly defined, and that in the creation of new positions and the development of new activities no logical plan of organization had been followed, with the result that clearly related activities were often found in widely separated departments. Its knowledge of the activities of all city departments has enabled the bureau to suggest plans for properly co-ordinating and correlating the various activities, to point out opportunities for increased service to the public, and to indicate points at which departmental functions overlap. A general scheme of reorganization has been formulated which has been suggested as the basis for the ultimate complete reorganization of the city government.

At the time the bureau was established, it was planned that during the first year its intensive work should be confined to the Health Department and to the Department of Public Works. The original plan has been followed in general, but at various times investigations have been made outside of these two departments, and some of the studies in the Department of Public Works have not as yet been completed. As the work progressed, standard practices in accounting and business procedure were established and in each study the changes in organization and procedure necessary to secure the highest efficiency were pointed out. It is well understood that the effecting of ideal reorganizations in a municipality is seriously handicapped by budget and legal restrictions. The bureau has, therefore, recommended changes through which an immediate gain in efficiency is possible and has also made recommendations which can be put into effect only as funds become available or legal restrictions are removed.

The reorganization of the Water Works affords probably the most comprehensive illustration of the work of the bureau in the

Department of Public Works. The problems of this department, as brought out by a detailed study of operation, were approached from every possible angle. A water waste survey was made during the summer of 1911 to determine the losses in pumping and in the distribution system and the methods to be followed in eliminating them. An electrolysis survey was made to discover to what extent return currents from the rails of electric railway companies are damaging the underground iron and steel structures in the city. Recommendations made for minimizing this evil are under consideration. Following a study of the present operating efficiency of the Water Works plant, including intake, pumping stations, reservoir, and distribution system, recommendations for improvements to be made in the immediate future were submitted. A second study was made to determine the adequacy of the present plant and to make plans for the future growth of the system to care for the needs of the city twenty years hence. An entire revision of the Water Works as to organization, business practice, accounting, and records, to embrace all of the recommendations set forth in the detailed study and the special surveys has been completed and installed with the exception of such changes as require legislative sanction. Investigations of the completeness of collections and of personal efficiency of the employees of the Water Works have not yet been completed.

Other reorganization studies in the Department of Public Works have either been completed, or are at present in progress, for the Bureaus of Street Construction and Repair, Street Sanitation, Sewers, Bridges and Public Buildings, and City Engineer. The procedure in the general office of the department is likewise being revised. In addition to the general reorganization plans made for these bureaus and offices, special studies have been completed of the refuse incinerator, collection of garbage, collection of ashes and rubbish, procedure in special assessments, and consolidation of house drain and plumbing inspection.

The studies of the bureau in the Health Department embraced all of that department's activities. The preliminary survey brought out the necessity of much detailed investigation and reorganization in order to place the Health Department on a high standard of efficiency. The greatest hindrance to efficient work lay in the faulty organization of the department. There was no definite location of

responsibility among employees, and related activities were scattered throughout the organization. The reorganization plans of the bureau were designed to overcome these defects. Necessary location of responsibility among employees was determined upon, the correct grouping of activities was provided for, the proper functions of each division of the department were indicated, and the necessary system for a complete record of the work performed was designed. Special reports were submitted upon the functions of the Division of Education and Publications, the transfer of out-door nuisance inspection to the Police Department, control and inspection of the milk supply, sanitary inspection, the combatting of communicable diseases, the inspection of food products, and the Health Laboratory.

In addition to its work in the Departments of Public Works and Health, the bureau planned the form of consolidation of the Fire and Police Alarm Systems and installed an office and accounting system in the new department, reorganized the Municipal Reference Library, assisted the Board of Examiners of Stationary Engineers in planning their work, and prepared the defense for the city in an application for the reduction of water rates pending before the Railroad Commission of Wisconsin.

The bureau is now at work on a reorganization of the methods and records of assessment and taxation. The plans for the immediate future include an investigation of purchase methods and standards.

The recommendations of the bureau have at all times been given careful consideration. In general they have been adopted without modification. Some have been adopted in part only, and some few have failed to receive the approval of the department heads or the council.

The bureau has frequently pointed out problems which it has felt could best be solved through the united efforts of interested citizens. To this end it has recommended the creation of commissions, composed of representative citizens without regard to political affiliations, to study special problems and to devise and test means of solving them. Following these suggestions, a market commission, a tuberculosis commission, a housing commission, a child welfare commission, and a special milk committee of the latter commission, have been appointed. The bureau has assisted these

commissions to lay out their plans and has co-operated with them at every stage of the development of their work. It has never been the idea of the bureau that these commissions should be a permanent feature of city government. They have been established to solve definite problems. When satisfactory solutions are reached and the work of the commissions becomes routine operation, they should be discontinued and the work transferred to the proper municipal departments.

Many times it has been possible to make consolidations and reorganizations through which an immediate money saving to the city has been effected. At other times, future savings have been made possible through capital expenditure. While the amount of these savings cannot be accurately estimated, without doubt they are much greater in amount than the cost of the bureau. The bureau has always considered savings as a by-product to efficiency, and at times, notably in the reorganization planned for the Health Department, has not hesitated to recommend increased expenditure to secure the desired efficiency.

The cost-keeping system which the bureau is installing in the various departments is designed to analyze in detail the actual work of a department and to determine costs on the basis of the standard unit of output. The general form and principles of the cost system are the same for all departments. As far as possible, standard forms have been adopted, which are augmented by special forms to suit conditions peculiar to any department. The system has been installed in all departments and bureaus, the activities of which have been studied in detail. The uses of a cost system in a municipality are numerous. Such a system gives the department head accurate knowledge of the work of his department and enables him to control its operations understandingly; it provides a measure of efficiency of employees and equipment; it permits the making of full and complete detailed reports of operation, enabling the department head to analyze the cost of work; it places the departmental accounts on a revenue and expenditure, instead of a receipt and disbursement basis; it makes possible the compilation of reports of municipal expenditures in a form comprehensible to the lay reader; and it permits comparisons of cost through a period of time and with other cities in which similar cost systems may be in use. The bureau has probably made as thorough a study of the problems of

departmental accounting and municipal cost-keeping as has ever been made.

In connection with the cost system a system of departmental accounting is maintained in all departments in which the cost system has been installed. A schedule of accounts has been adopted, which is flexible enough to permit of adaptation to the needs of any department. This schedule is very complete. The Railroad Commission of Wisconsin, which has supervision of the accounts of public utilities, has ordered that the system designed by the bureau for the Water Works be installed and maintained for the trial period of one year. The commission will audit the monthly cost statements of this department. By the terms of a law enacted in 1911, the Wisconsin Tax Commission is given similar supervision over the accounts of the other municipal departments, and the general city accounts, on the initiative of the Common Council.

The bureau has begun the publication of a monthly cost bulletin, which will ultimately contain properly audited cost statistics of each department, analyzed and compared with the costs of previous months. It is hoped that this bulletin, which will report the financial transactions of the city departments in clear and concise form, and in non-technical language, will arouse the interest of the citizens in municipal affairs.

Within the past two years the central accounts of the city kept in the comptroller's office have been thoroughly revised by the deputy comptroller. The budget has been scientifically prepared, property accountability has been established, and the accounting control of the departmental expenditures perfected. The new system in the comptroller's office provides, by a more complete check on the City Treasurer than could be had under the old system, an exact accounting control, by funds, of all expenditures made and obligations incurred. The new system of general accounts in the comptroller's office and the department accounts installed by the bureau have been made to dovetail nicely, and together give a complete record of the city's activities.

The advantages which result to a city by establishing a research bureau as an integral part of the city government are immediately apparent. The department heads are more likely to have confidence in the bureau and co-operate in its work. Investigators are more certain of obtaining free access to all records and accounts, and

securing accurate knowledge of business and operating methods. Recommendations of the bureau are more likely to be given careful consideration.

Organization within the city government, however, is not without its disadvantages. The recommendations of such a bureau may be regarded by the public as coming from partisan motives rather than based on thorough efficiency investigations. Every change of administration endangers the continuance of the work.

A privately financed bureau for the investigation of municipal affairs might feel more free to inform the public of inefficiency in city administration than a bureau organized as a part of the city government. The unsatisfactory feature of the privately financed bureau, however, is the possibility that its recommendations are far less likely to receive consideration at the hands of public officials than the recommendations made by a bureau publicly financed. Thus it can be seen that a private bureau must be satisfied largely with exposing bad conditions and offering suggestions for remedying them, which may or may not receive the consideration they merit, while a public bureau uses the evidences of weaknesses and inefficiency it discovers merely as the basis for constructive recommendations.

Each form of organization has its place. While it may be necessary for some unprejudiced body to give the public exact information regarding municipal affairs, it is equally desirable that somewhere within the city government there be an organization whose function it is to point the way to efficiency by offering constructive methods and suggestions. Private corporations find it profitable to maintain efficiency departments. Surely municipalities with interests many times more diversified stand in as much need of such work as they.

The Bureau of Economy and Efficiency of Milwaukee was created for a definite purpose. When this purpose is fulfilled, the labors of the bureau as at present constituted will be at an end. The need for efficiency work will still continue, however, for it is to be expected that, as time goes on, changes and additions will need to be made to the systems installed by the bureau, and new fields of efficiency study will be opened with the introduction of new municipal activities. Some provision should be made for a permanent efficiency bureau in a department of the city government removed as far as may be from political influences.

PART FOUR

Training for Municipal Efficiency

INVESTIGATIONS AS A MEANS OF SECURING ADMINISTRATIVE EFFICIENCY

BY CHARLES E. MERRIAM,
Professor of Political Science, University of Chicago.

Our American cities have been seriously afflicted with corrupt or unrepresentative councils and with dishonest or inefficient administrations. Until recently public interest has centred around efforts to secure honest councils or honest administrators. Only within the last few years has attention been directed to the importance of efficiency as well as honesty in the administration. The general laxity and easy tolerance of politics, the corrupt practices of the political contractor in the field of public works, of the underworld in the department of police, of the public service corporations with reference to agencies of administration charged with their supervision, have combined to make our municipal administrations, generally speaking, highly expensive and inefficient. We are slowly advancing from "gray wolf" dishonesty, to "dub" honesty, from honest incompetency to business efficiency. More attention has been given to the subject of efficient administration in our American cities during the last ten years than in any previous period of our history, and striking results have been obtained in many of our cities. Official commissions like those of Boston and Chicago, Bureaus of Municipal Research in New York, Philadelphia, Cincinnati, wide-awake administrations like those of Philadelphia, Cincinnati, St. Louis and Milwaukee; and commission governed cities like Galveston, Des Moines, and a hundred others, have attacked this problem and have obtained notable results. I have been asked to speak of the work done in Chicago and Cook County.

Six years ago it was my privilege to make for the City Club an inquiry into the municipal revenues of Chicago.¹ At that time there was serious discussion as to whether revenues or expenditures should be taken up, but the lot finally fell upon revenue. In the Charter Convention which met shortly after this, I introduced and secured the passage of a resolution calling for an inquiry by the

¹ City Club Publications, *Municipal Revenues of Chicago*.

council into city expenditures; but no such action was taken. In the second Charter Convention I again introduced and secured the passage of the same resolutions, but with the same result. In 1909 an effort was made by representatives (including the writer) from various clubs to organize a Bureau of Municipal Research for the purpose of inquiring into the expenditures of the city and other local governing bodies; but this effort also was abortive. In the same year I entered the council and in this capacity, as alderman, was able to bring about the investigation.

It so happened that the legislature of 1909 increased the borrowing power of the city by about \$16,000,000, and conditioned the issue of new bonds upon a favorable referendum vote. On the Monday following the signing of this bill, I introduced a resolution calling for comprehensive inquiry into the expenditures of Chicago. I stated that as a referendum vote was soon to be taken upon city bonds, such an investigation was entirely appropriate. If the finances of the city were in good condition, the people should be so informed; and if in bad condition the voters were equally entitled to the information. To vote down the resolution and to pass it were equally dangerous, but it was finally decided to pass it. On June 28, 1909, the ordinance passed as follows:

That the mayor be and he is hereby authorized to appoint a commission of nine persons, of whom not less than three shall be members of the city council, for the purpose of making a comprehensive inquiry into the expenditures of the city of Chicago, and of making appropriate recommendations to the mayor and the city council upon this subject;

That all the heads of departments, and city officials and employees, are directed to supply, on request of said commission, all books, documents, and other information in their possession relevant to the purpose of such inquiry.

The following persons were appointed by the mayor: Aldermen C. E. Merriam, Bernard W. Snow and Nicholas Finn; Walter H. Wilson, City Comptroller; Frank I. Bennett, former chairman of the Finance Committee; Walter Fisher, special traction counsel for the city (now Secretary of the Interior); John W. Alvord, M. Am. Soc. C. E., now president of the Western Society of Engineers; Wm. A. Tilden, David R. Forgan, George Tunell and A. C. Bartlett. The appointment of a representative of labor was agreed upon, but not made. As the originator of the movement, I was elected chairman of the commission; Spurgeon Bell was made secretary. A

steering committee of four was appointed for the purpose of preparing and presenting material to the full commission. This committee consisted of Aldermen Merriam and Snow, Walter Fisher and George Tunell. An appropriation of \$10,000 was made for the work of the commission, and this was later increased by an appropriation of \$50,000. An attempt was made to enjoin the commission from the use of these funds, but Judge Windes declined to grant the injunction.

The work for the commission was done by capable experts and investigators employed for that purpose. The work on the city budget was done by Herbert R. Sands, who had been employed in a similar capacity by the New York Bureau of Municipal Research; on special assessments, by Mr. Dickinson, of Price & Waterhouse, Mr. Peter White, of the New York Bureau of Municipal Research, and Mr. Betak; on sewer cleaning and shale rock, by Benjamin Welton, of the New York office of Commissioner of Accounts; on the Department of Electricity, by W. H. Zimmerman & Co., of Chicago; on water works, by Dabney H. Maury, M. Am. Soc. C. E., president of the American Water Works Association; on street paving, by Samuel Whinery, M. Am. Soc. C. E., one of the best-known paving engineers in the country; on street cleaning, by Richard Fox, head of the Citizens' Street Cleaning Bureau and one of the best authorities on that subject; on the southwest land and lake tunnel, by Mr. Alonzo Z. Hammond; on bridges, by Mr. W. Curtis. Preliminary investigations were followed in most cases by public hearings before the commission, at which opportunity was given for explanation of conditions disclosed by the inquiry, or for obtaining further pertinent information.

The reports of the commission, as soon as completed, were transmitted to the mayor and the council. They were also printed and circulated, with the exception of the reports on water, street cleaning, special assessments, civil service and pensions. Because of the ruling that the life of the commission ended on April 17, 1911, these were not printed by the city, but were printed by the Chicago Bureau of Public Efficiency. In all 21 reports were presented as follows: (1) Budget; (2) purchase of lumber; (3) Lawrence Avenue sewer; (4) purchase of coal; (5) Bureau of Sewers; (6) Bureau of Bridges; (7) City Clerk's office; (8) City Purchasing Agent's office; (9) purchase of castings; (10) Fire Department;

(11) Police Department; (12) Building Department; (13) House of Correction; (14) Department of Electricity; (15) street repairing; (16) street paving; (17) street cleaning; (18) Southwest Land and Lake Tunnel; (19) special assessments; (20) civil service; (21) pensions. They may be obtained by applying to the office of City Statistician, Chicago.

City Budget

One of the first pieces of work undertaken by the commission was the revision of the methods of city budget making. Under the old system many of the appropriations had been made in lump sums in such a way as to make effective control of the appropriation impossible. By way of illustration, in the Police Department \$205,000 was appropriated in the 1909 budget under the following title:

For repairs and renewals of wagons and harness, replacement and keep of live stock, identification, police telegraph expenses, rents, repairs and renewals of equipment, hospital service, printing and stationery, secret service, light and heat, and twenty-five more horses and equipment for mounted police and for repair of Hyde Park Station; also other miscellaneous expenses, the sum of \$205,000.

We subdivided this under various heads in the 1910 budget as follows: (1) General supplies; (2) material for repair and replacements by departmental labor; (3) repairs and replacements by contract or open order; (4) apparatus, machinery, vehicles, harness, etc.; (5) purchase of furniture and fittings; (6) purchase of horses; (7) rents; (8) fuel; (9) forage, shoeing and boarding horses; (10) all other operations.

Another illustration may be given from the Bureau of Sewers. In the 1909 appropriation, \$200,000 was appropriated under the following caption:

Cleaning sewers and catch basins, District No. 1, old city wards 1 to 5, 9 to 11, and 16 to 23, inclusive. District No. 2, Town of Lake, wards 29 to 32, inclusive. District No. 3, Town of Hyde Park, wards 6 to 8 and 33, inclusive. District No. 4, Lake View, wards 24 to 28, inclusive. District No. 5, Austin and part of old city wards Nos. 12 to 15, 34 and 35.

This enumeration of districts included all the wards of the City of Chicago, and they might just as well have read "for the City of Chicago, Bureau of Sewers, \$200,000." We subdivided this into a

number of heads in order to ascertain definitely what particular portion of money was appropriated for each purpose, and also to control the fund designated during the entire fiscal year.

We were successful in having the entire budget of the city reorganized on this new basis, giving us the most scientific and up-to-date budget which we have ever had. This method was adopted by the Finance Committee, and the budget was approved by the City Council of Chicago. Accounts were set up corresponding to the different subdivisions of appropriations. The consequence was that last year we had much more effective control over the city finances than ever before.

We also succeeded in making another budget change. For many years it had been customary to appropriate a much larger amount than would be available during the year. These were called "hot air" or "paper" appropriations. They served no useful purpose and were mischievous in their influence on the city's finances. This system placed a premium upon early expenditure of funds by a bureau or department. The chief who carefully conserved his appropriation for supplies or labor might discover in October or November that city funds were exhausted, while the careless head who spent his funds early in the season met with no such disappointment. The inevitable effect was detrimental to economical expenditure.

The action of the commission made it possible to squeeze some of the water out of the city budget, and consequently the temptation to spend departmental funds early in the season was greatly weakened. The effect upon the city's finances was excellent, as it enabled the careful bureaus to follow a policy of thrift and saving without being punished for it at the close of the year. One of the indirect consequences of this work was the defeat of the budget in 1911 because of the fact that it contained an over-appropriation so large that it would have broken down the new system.

Contracts and Purchase

One of the important branches of the commission's work was the investigation of purchases of material and supplies, and the letting and enforcement of city contracts. This involved an examination of the office of the City Purchasing Agent, and of contracts

for material and work in the various departments of the city government, particularly the Department of Public Works.

Purchases of material and supplies for the various departments are made through the City Purchasing Agent's office, when the amount is less than \$500, without a formal contract. Inquiry into the operations of this office disclosed the existence of many serious abuses. One of these was the so-called "split requisition." This is a device for evading the requirement that purchases above \$500 in amount be made by contract. For example, a purchase of \$10,000 is split into sums less than \$500, and no public bidding is required on contract made. In the case of castings, a contract for which bids had been taken by the Department of Public Works was ignored, and material was purchased by split requisitions at a higher figure than the contract called for. This transaction alone cost the city about \$64,000.

It was also discovered that a large miscellaneous business was given to a political brokerage firm whose president was the private secretary of the (then) mayor. This company was upon the favored list and sold a large quantity of miscellaneous articles at high prices to the city. In the case of oils, it was found that prices paid were higher than offered by other companies, and the material furnished uniformly below specifications, as shown by the city's own tests. Purchases of coal, grain, etc., showed similar irregularities, and demonstrated clearly the demoralized and unsystematic condition of the office. The press demanded the resignation of the purchasing agent, but no action was taken. In view of this situation I did not press the commission's ordinance providing for a central purchasing agency, increasing the power and responsibility of the head.

Purchases by contract were carefully examined by the commission. This inquiry covered the drafting of the specifications, the bidding upon the specifications, and the actual enforcement of the terms of the contract. It showed the existence of conditions which were enormously expensive to the taxpayer, and a disgrace to the city. It is unnecessary to discuss these at length, and I shall touch upon them only for the purpose of illustrating particular points.

In the street-repair contracts, declared by our expert, Mr. Samuel Whinery, to be the most openly fraudulent he had ever seen, the chief difficulty was with the specifications and the bidding.

The unbalanced bid was the chief source of trouble. The specifications in this contract provided that "no bid will be accepted which does not contain an adequate or reasonable price for each and every item named in the schedule of prices."

Repairs were divided into two classes: Class A included repairs where any surface and binder were required; Class B included repairs where in addition to surface and binder, a 6-in. Portland cement concrete base was required. The successful contractor bid \$1.75 per sq. yd. for Class A and 1 cent per sq. yd. for Class B. Averaging the bids, the result is 88 cents, and this contractor was accordingly awarded the contract. If, however, the bid of the next lowest company had been accepted, the city would have saved \$147,183, using the estimates on which payment was actually made. These figures were: Class A, \$229,891; Class B, \$12,064. The percentage of Class B to Class A repairs during a series of years is as follows and is very significant:

1903.....	344.2	1906.....	132.9
1904.....	200	1907.....	4.3
1905.....	336	1908-9.....	5.2

Mr. Whinery estimated that repairs at the intersections of Forty-fourth Avenue, which actually cost \$2,997.91, should have cost \$11.88. Evidently the methods of measurement of areas repaired and the classification of repairs were not calculated to protect the interest of the taxpayer.

In the case of street-paving contracts, the difficulty was double. In the first place, specifications were imperfectly drawn; notably in the case of wood-block specifications, which were so arranged as to invite a monopoly of the business. In the second place, the enforcement of the contract requirements was defective, as the inspection of the work was shown to be grossly inadequate. Case after case of improper work was reported under the very eye of the city inspector, indicating extreme laxity in inspection, and suggesting connivance between certain contractors and inspectors.

In the street lighting contract, providing for 6,000 gasoline lamps, the difficulty was with the inspection. The city did not even possess the "portable photometer" necessary to make the tests, and allowed the contractor a free hand. Our tests showed that instead of a guaranteed candle power of 60, the average was 19 as shown by one set of tests and 26 by the other. No deduction was

made for failure to furnish the light guaranteed and the loss incurred from this cause was estimated at \$85,000.

Shale Rock

In the shale rock case, 23,000 cubic yards of rock excavation, one-fourth of the total excavation, was paid for at \$2 per yard, where borings and tests by the city, by the commission and later by the office of the state's attorney showed clay formation. In this case the inspection of the work was again at fault, as more careful investigation of the quality and quantity of material taken out would have prevented the difficulty which arose.

In the purchase of coal, the typical defects were almost all disclosed. The specifications were antiquated, the system of tests provided was out of date, the enforcement of the tests was lax, while the system of checking bills rendered (in the Fire Department) was inadequate to the point of absurdity. Discrepancies discovered in this connection were of three principal varieties: rejected items, varied items, and inserted items. A case involving all three sorts was disclosed at one fire engine company. On April 24 (under ticket No. 4,847) coal to the amount of 232,200 lbs. was received and entered on the books of the company. This was paid for three times; on the charge of that date, on the repeated charge of May 25, and on the charge of May 29, which include a second repetition of it. Other illustrations of the practice are given in the commission's report on the Fire Department.

The purchase of hose in the Fire Department is an illustration of a different kind. In this case the material, mainly hose, was purchased without any definite specifications, but by the market brand. The brokerage company already mentioned again figures as one of the firms whose brand was acceptable. The specifications of the National Board of Fire Underwriters have since been adopted, with some modifications.

An entirely different class of contract was that unearthed in the House of Correction. We learned that contracts for convict labor are made at the absurdly low rate of 25 cents per day per man in certain cases. It was found that 60 to 100 men are employed at 25 to 35 cents; 60 to 100 at 40 cents; and 60 to 100 at 50 cents. No bids for the services of prisoners have been solicited and there was no competition in awarding the contracts.

The Southwest Land and Lake Tunnel of the water-supply system was another illustration of inadequate inspection service. The investigators of the commission disclosed the fact that the concrete lining of the tunnel was in many instances below the contract requirements as to thickness. Difficulties encountered in Sections 1 and 2 of this tunnel had led to the framing of stringent specifications, but notwithstanding this experience, lax inspection nullified the new specifications. Investigation also showed that the quality of concrete used and the methods of applying it were not such as were called for by the plain provisions of the contract.

These evils may be grouped in a general way as follows: (1) Defects in the specifications themselves, due either to careless continuance of old specifications or to collusion with contractors. (2) Failure to secure wide competition from a number of bidders. (3) Failure to enforce the terms of the contract either because of general inefficiency of inspection or because of collusion with contractors.

Pay Roll and Labor

The commission's investigation covered the efficiency of expenditure for human service in many important departments. The police force and the law department were important exceptions. Special attention was given to the Bureau of Sewers, the Bureau of Streets, the Bureau of Bridges, the water-pumping stations, inspection services in the several departments, and the practical workings of the Civil Service Law.

The first inquiry covered the Bureau of Sewers and was conducted by Mr. Benjamin F. Welton, who had been carrying on similar work in the office of Commissioners of Accounts in New York City. He undertook to test the efficiency of the sewer-cleaning gangs of the city in a series of observations, public and private. His investigators reported to him a deplorable state of affairs in this branch of the city's service. His tables showed that under secret observation the working time of the men was forty per cent and the wasted time forty-six per cent (waiting and unaccounted for constituting the balance), while under open observation their working time was 76.4 per cent and the wasted time 13.8 per cent. He reported that a "fair estimate of the existing pay-roll waste would be not less than sixty-five per cent of the labor pay-roll expenditures."

Testimony subsequently taken before the commission and before the Civil Service Commission confirmed the report of wholesale waste in the work of catch-basin cleaning.

An examination of the water-pumping stations, conducted by Mr. Dabney H. Maury, president of the American Water Works Association, revealed the existence of padded pay rolls. After a thorough investigation of the water-works system he submitted a report on the whole situation, analyzing the conditions as he found them, and presenting constructive recommendations for enforcement of the service. His report showed enormous waste in the operation of the water-works as well as failure to reach proper standards of practical efficiency in service. On the pay roll of the pumping stations, amounting to \$397,862, Mr. Maury recommended reductions amounting to \$75,760 according to one plan, and \$171,242 according to another plan. He recommended changes in the equipment of the stations which would produce an annual saving of about \$140,000; and changes in the purchase of castings which would save \$38,082. With a modern type of hydrant he showed that it would also be possible to save about \$40,000, the cost of annually packing our hydrants with manure for protection against frost.

Mr. Maury also called attention to the fact that in 1905 Chicago was obliged to pay \$1,250,000 extra fire-insurance premiums on account of water-works deficiencies. His report also called attention to the enormous waste of water actually pumped. This amounts to about sixty-six per cent of the total pumpage. It is estimated that thirty-three per cent of the water pumped is lost before it reaches the consumer, and thirty-three per cent is lost by leaky fixtures and otherwise after reaching the consumer. Mr. Maury also called attention to the wide discrepancy between the test duties of the engines at the pumping stations and the station duties as reported. With few exceptions these engines are all of types that should give test duties running from 100,000,000 to 180,000,000 ft.-lbs. for 1,000 lbs. of steam. The average station duty is below 79,000,000 ft.-lbs.

Examination of the Division of Bridges and Harbors by Mr. Walter H. Curtis showed similar results. His report states, for example, that the painting of bridge houses cost about five to seven times a reasonable price. Observations and estimates on other

work done in this division showed a loss of about fifty per cent in efficiency as measured by ordinary standards. As one of our investigators reported, referring to certain men, "they expressed their opinion freely of the commission, but that they did not care what was found in the report, as they were safe under their boss, who had instructed them to continue their work in their usual way, and not sweat blood." In the harbor section of this division it was reported that half of the pay-roll expense could be eliminated, amounting to \$7,640.

One of the most important reports submitted to the commission was that made by Mr. Richard T. Fox on the Bureau of Streets. Our investigators were at first refused access to the bureau records by the acting superintendent, but facilities for investigation were afforded later. One of the striking features of this report was the evidence of lack of standardization of work. For example, one street sweeper cleans 10,970 sq. yds. of asphalt in good condition, with a horse traffic of 351 in eight hours. Another cleans 15,190 sq. yds. in similar condition with a horse traffic of 699. Another sweeper cleaned 14,920 sq. yds. of brick in poor condition with a horse traffic of 1,406, while another cleaned 9,500 yds. in good condition with a horse traffic of only 495.

Investigation of street sweepers' work showed (after all necessary and reasonable allowances) a loss of twelve per cent in time. This amounts to about \$120,000 a year. Much of the time put in, however, was not properly employed. Investigators' reports show that forty per cent neglected their work to a very noticeable extent.

The time lost by the garbage teams observed was 22.5 per cent, a loss to the city, as calculated by Mr. Fox, of about \$70,000 a year. The ash teams lost in time, 13.7 per cent, or the equivalent of about \$70,000 a year. These teams are one of the last big things left in the way of political patronage, and naturally it is difficult to secure economy under such conditions. Between June, 1907, and March, 1910, seventy-one per cent of the teams in service were replaced, obviously for political reasons. Mr. Fox submitted detailed and important recommendations regarding the reorganization of the whole service.

In the Department of Electricity, the gas-lighting service maintained by the city was found to be in poor condition. Of 956 mantle gas lamps inspected, only sixty-two per cent were in condition which

could be called passable. The following table indicates the results found.

INSPECTION OF GAS LAMPS IN CHICAGO.

Good.....	173	20.2%
Fair.....	350	40.7%
Bad.....	229	26.7%
Very bad.....	82	9.69%
Out.....	24	2.8%
No chimney.....	62	7.2%
Broken glass.....	36	4.2%

Our expert reported that "It is highly probable that the light in case of mantle and open flame lights could be increased fifty per cent should the proper care for which the city is paying be given the lamps."

Lax Administration of the Building Department

The inquiry into the Building Department revealed the existence of serious disorganization and widespread demoralization of the service. The system of records was found to be incomplete, the inspection of buildings, elevators and fire escapes in many instances ineffective, the prosecution of violations of ordinances open to severe criticism. In 147 suits filed during thirteen months, only seven convictions were secured. Thirty-eight cases had been continued five or more times, and 121 cases continued from one to thirteen times before final disposition. The commissioner himself, when examined, was unable to describe in even a general way the manner in which several of the important functions of this department were administered, and showed an utter lack of familiarity with his department.

The commission, in its report, declared: "Your commission is of the opinion that the present commissioner of buildings is incompetent to longer hold his office."

Reference has already been made to the inadequacy of the inspection service in connection with the enforcement of contract provisions. In all inspection services, whether the inspector deals with supplies and material, or with the enforcement of contract provisions, as to method of performing work, the city is likely, as shown by our investigation, to receive less than full value for the money expended. The possibility of collusion with contractors,

and the general atmosphere of political influence make vigorous and effective inspection difficult. The diligent and impartial inspector is likely to make trouble for himself, and incurs a serious danger of removal or transfer; or he may fail to secure deserved promotion; or he may be subjected to the process of making it unpleasant for him—a step which is intended to get rid of the offender. It is clear that where a contractor is influential with the department or the administration, great pressure is brought to bear upon the inspector to relax his vigilance. The effect of this in the long run is to produce a demoralized condition in the entire service.

Special Assessments

Investigation of the special assessment accounting work of the city by Mr. Dickinson, president of Price, Waterhouse & Co., assisted by Mr. T. W. Betak, showed a considerable duplication of work. It appeared that men in the Board of Local Improvements, the comptroller's office and the collector's office were carrying accounts which were in some instances duplicates, and which need not be carried more than once under a proper system. It was estimated that approximately \$25,000 might be saved if the accounting system in these departments were reorganized.

Civil Service Methods

The commission's inquiry also covered the practical operations of the merit system. This was one of the first inquiries made into the real workings of a municipal civil service system, and developed facts of great importance not only to Chicago, but also to other cities operating under similar systems.

This inquiry did not cover comprehensively such aspects of the operation of the system as are not matters of record. In order to make the work complete, additional funds would have been necessary and investigators trained to do detective work. Even with these important limitations, the investigation was thorough-going enough to give a fair idea of the present workings of the system and to serve as a basis for recommendations as to changes.

In certain respects, important advances have been made recently in the workings of the merit system. This is particularly true of the system of regrading positions in accordance with the duties of the respective offices, as described in detail in the report

of the commission's investigators. The effort of the recent commission to standardize the requirements of examinations, and the methods of making them as well, is distinctly creditable. The establishment of the Efficiency Division since the beginning of the commission's investigation is an important step in the direction of high standards of public service.

In other important particulars, however, there was found to be room for immediate improvements. The present system of advertising Civil Service examinations fails to provide for proper publicity, and, in this way, limits the field of applicants, especially for the higher positions. As shown by the statements in the investigator's report, there is a dearth of candidates for many important places, which can be accounted for by a general lack of information regarding the examinations. This is a serious restriction upon the merit system, and, until some method of providing adequate publicity for these examinations is found, the opportunities for public service remain practically unknown to the average citizen.

The practice of sixty-day appointments is also a matter of very great importance. While many of these appointments are made for perfectly legitimate reasons, in other cases this does not seem to be true. To the extent that these preliminary appointments are made on a political basis, and for the purpose of providing information and experience to be used in a subsequent examination, it is clear that the purpose of the merit system is defeated.

Favoritism Not Eliminated

The conduct of the examinations for certain offices does not reflect credit on the commission appointed and paid for the purpose of maintaining merit as distinguished from political favoritism. The most conspicuous case of this character is found in the selection of the city statistician, who obtained a mark of 50 on a simple examination in arithmetic. The method in which certain positions in the Bureau of Engineering and the place of city architect were filled is of the same general nature.

In the case of labor service, the situation is distinctly discreditable. The appointments in this division, instead of being on a merit basis, are, in the main, very plainly political. The observance of a number of solemn forms in this connection by no means adds to the dignity of the Civil Service system of Chicago. That laborers

should be led to present themselves at the commission's office, or physician's office for physical examination, and, later, upon notification, go to the ward superintendent's office in search of a position, when, as a matter of fact, the appointment is determined by political recommendation, is extremely unfortunate. Day laborers ought not to be invited or permitted to spend their time and money searching for positions which it is wholly unlikely they will ever secure.

The fact is, that by various acts the Civil Service Commission has created a general idea that appointment and promotion in the city service are not wholly based on the merits of the individual candidate, but depend to a very considerable extent upon political influence. The city employee is likely to get the idea that his best hope for advancement in the city's service lies in the strength of his political backing, rather than the faithfulness and efficiency of his performance of his official duties. Whether or not this is wholly true or applicable in a large percentage of cases, if the impression prevails that it is true, the effect is about as injurious to the city service as if it really were the case. This idea can be dispelled only by such unmistakable action on the part of the commission as will make it absolutely clear that that commission stands for the thorough-going application of the merit system in all cases.

City Pension Systems

A unique feature of the commission's work was an inquiry into the city's pension system. The different pension plans were analyzed with a view to possible improvement in conditions. It was found that none of the funds had ever been carefully examined by an actuary, and all are more or less guess-work. The statutes governing the funds are defective in many particulars, notably in respect to refunds. In the case of firemen and policemen no refund whatever is provided. The administration of these funds by several boards is complex, cumbersome and expensive. Some form of consolidation would save time and money for the pensioners and the city.

An illustration of this was found in the case of the police pension fund. The commission's inquiry showed that, although this fund amounted to about \$600,000, no interest was received from it. It was also found that an attorney for the board was paid \$5,000 a year for his services, although this work was formerly performed

by the staff of the corporation counsel's office. The bond of the treasurer was fixed at \$40,000, and no outside audit of accounts was made by an independent firm.

The investigator for the commission recommended the adoption by the city of a superannuation system to cover all employees. The present annual expenditure of the city for pension purposes is about \$700,000, and the additional cost is roughly estimated at \$400,000, or on a contributory basis, about \$200,000. A considerable number of men now carried on the pay rolls are in effect "pensioners." These are persons who have long been in the service, and are wholly or partly incapacitated for the active performance of their duties, but are carried at full pay. Their retirement on half pay would have strengthened the service and been a decided economy for the city.

Entirely aside from the humanitarian considerations involved, it would improve the efficiency of the service, if a pension were made to cover all employees. The practice of large private corporations indicates that business motives alone justify the adoption of the pension system. Such plans have already been put into practical effect by London, Paris, Berlin, and other large municipalities, and it can only be a question of time until the same step is taken by Chicago.

Results Secured

The results accomplished by the work of the commission were substantial and important, although short of what might have been obtained with proper backing.

The segregated budget system, which was adopted, gave the city more complete control over expenditures, and in this way made possible great economies, especially in connection with the other work of the commission.

Other immediate results were the relief of the public from the payment of about \$10,000 a year in fees formerly the perquisite of the city clerk. The Police Pension Fund Board was reorganized, and interest amounting to about \$25,000 a year was added to the fund, while a suit for payment of back interest was instituted. During the investigation the pay roll of the water pumping stations was reduced to the extent of \$35,000, a new engineer was placed in charge of the stations, and an effort made to reorganize the system.

As a result of the commission's recommendation, the Commis-

sioner of Public Works and the Deputy Commissioner resigned and were replaced by more efficient men. The Superintendent of Sewers was discharged by the Civil Service Commission, and his place filled by a more capable man, Mr. Hill, of the Board of Local Improvements. The Superintendent of Dumps was discharged by the Civil Service Commission. The recommendations of the commission in respect to the City Purchasing Agent and the Commissioner of Buildings were, however, wholly ineffective.

The amount of work done in the various departments materially increased under the stimulus of the inquiry. This was particularly noticeable in the Department of Public Works, where the greatest wastes were found, and where there was consequently the greatest opportunity for improvement.

The improvement in city contracts was general. In practically every department old specifications were reconsidered and revised, and their enforcement somewhat more carefully looked after. A noticeable instance of this was the coal contracts, which were brought up to date, purchases being made on the British Thermal Unit Plan, and the enforcement of specifications being carefully guarded. The enormous frauds and waste in connection with the purchase of coal were checked, and large sums saved to the city. The price of castings was cut in two, resulting in an annual saving on this item alone of \$25,000.

Hay and grain specifications were revised and placed upon a different basis. In the Fire Department competition has been introduced for the first time in twenty years, and the quality of the materials delivered was substantially improved. The system of purchasing hose in the same department was also revised to conform to the specifications suggested by the National Board of Fire Underwriters.

The gasoline lighting contract in the Department of Electricity was revised and more attention given to inspection; with the result that for a time at least lights were kept up to the standard set by the contract.

Under the stimulus of the investigation the contract with the Drainage Board for use of its electric power for lighting purpose (which contract had been mysteriously lagging for several years) was suddenly completed. This arrangement will add 10,000 new lights to the city's equipment at a cost of only twenty per cent more

than is now paid for over 12,000 lights. The transfer of the Thirty-ninth Street, Lawrence Avenue, and Wilmette pumping stations to the Sanitary District is another illustration of the same tendency to activity under the influence of the commission inquiry.

Paving specifications were revised by the Board of Local Improvements to some extent, although by no means to the degree recommended by Mr. Whinery. An additional force of inspectors was added to the staff of the Board of Local Improvements, with a view of securing more faithful performance of contract obligations. It is doubtful, however, whether this additional number very materially improved the situation. Although business methods of the Police Department were found in better condition than anywhere else, Chief Steward made a vigorous and successful effort to improve the system still further.

As a result of the frauds disclosed in purchase of coal, the auditing of bills was transferred to the comptroller's office, and provision made for central audit in that department. This will, at any rate, prevent the careless kind of an audit made by the retired officers in the Fire Department, and should ensure more careful and expert scrutiny of bills against the city.

After the commission began an inquiry into the rates of interest received by the city upon the public funds, the comptroller discovered that he could secure one-quarter to one-half of one per cent more in the way of interest than he had previously received. The rate was raised from two per cent to an average of $2\frac{1}{4}$ per cent, thus increasing the revenue of the city by about \$50,000 a year. A bill authorizing the investment of city funds in anticipation of tax warrants was also prepared and has just been passed. This will make possible an annual saving of about \$200,000.

An indirect result of the activity of the commission was the establishment of the Efficiency Division in the Civil Service Commission. This bureau was organized for the purpose of studying conditions in the several departments, and of making suggestions for improvement. If this work were carefully and impartially conducted and adequately supported, it would effect important changes in the city service.

On the other hand, important changes suggested by the commission were not made, as they could have been with the sincere and earnest co-operation of the administration in our work. After

demoralized conditions were disclosed in the City Purchasing Agent's office, the head of the department was permitted to remain undisturbed. In spite of the deplorable and dangerous conditions revealed in the Department of Buildings, the head of that department was not relieved of his grave responsibilities. Had the recommendations of the commission been vigorously taken up by the city government and an aggressive policy pursued, much more sweeping changes might have been made, to the great benefit of the taxpayer and the public. In individual cases where such co-operation was secured, progress made was rapid and marked.

When the 1911 budget was presented to the council, I presented amendments which would have reduced the pay-roll obligations of the city about \$100,000 per year. These were voted down, however, and the superfluous positions were continued at the expense of the public.

Criminal Prosecutions

Over criminal prosecution the commission had no control. The commission had no power to compel the attendance and testimony of witnesses, excepting city employees; or to compel the production of books, documents, and papers, other than those of the city. The commission had no power to prosecute anyone, or to begin a civil suit. It was purely an advisory body, entirely dependent upon the city and the county for the execution of its recommendations. All of the commission's material was given promptly to the state attorney for Cook County. A stenographic copy of all hearings was sent to that officer. At many of the hearings a representative of the state attorney was present, at my request, and all evidence or clues that might in any way assist the course of criminal justice were presented. The chairman and the attorney for the commission consulted with the state's attorney, our investigations were used before the Grand Jury, and otherwise no step left untried to bring the guilty to punishment. The indifferent handling of the cases by the state attorney's office produced indictments, but no convictions.

Sources of Loss

From the observations made in the various bureaus and departments, it is clear that a great gain could be made in most classes of city expenditures under proper management. With a properly

selected purchasing agent, careful attention to the letting of contracts and their enforcement, and with careful organization and supervision of the working force of the city, very material economy could be effected.

The three great sources of loss disclosed are outright graft or stealing, political favoritism, and lack of proper system. The dividing line between these three is not always clearly marked and they very often shade into each other. It is an easy step from a lax system to political favoritism, and it is an easy step from political favoritism to plain graft. Lack of system fosters political favoritism and graft, and at the same time political favoritism stands in the way of proper methods of organization and supervision. We may say that if graft and politics were eliminated the introduction of business methods would be comparatively easy; and on the other hand we may say that with a proper type of system, both political favoritism and theft would be made more difficult. Eliminate these three great types of waste, establish the principle of absolute integrity and efficiency, drive out politics from the administrative departments, emphasize the importance of economy and efficiency, and the taxpayer's dollar would go much farther than it now does.

An important problem barely started by the commission was that of departmental reorganization. At present the number of departments is so great, and their work so badly organized that the resulting loss in economy and efficiency is great. As things now stand, there are more independent heads of departments in Chicago than there are in the government of the United States. A simpler form of organization could undoubtedly be worked out to the very great advantage of the administration and the city. One of the chief advantages of the commission form of government has been the definiteness with which power and responsibility may be located. So far as the administration is concerned, many of these advantages might be gained by simplifying the organization of the several bureaus and departments and by more careful co-ordination of their work.

Chicago Bureau of Public Efficiency

The Chicago Bureau of Public Efficiency was organized in 1910 to continue the work of the commission on city expenditures, with

reference to the city government, and to extend the investigation into the three park districts, the County, the Sanitary District, the Board of Education and the Public Library Board, none of which is under the jurisdiction of the city government. Mr. Julius Rosenwald was made president of the Board of Trustees, Mr. Herbert R. Sands, director, and George C. Sikes, secretary. Numerous reports have been made by this body, the most important of which are those covering the park system of Chicago, and several of the county offices.

These county reports are of especial value, not only locally, but generally, as few investigations of this kind have been made. It is probable that many of the weaknesses disclosed in the administration of Cook County are typical and characteristic of county government generally. The grewsome system of graft and waste found in the office of coroner, the padded pay rolls and antiquated methods of the Circuit and Superior Court clerks, the conditions in the sheriff's office contain much of interest and value to other counties. On the other hand, the report commendatory of the office of Recorder, and the description of methods employed there, may hold suggestions of importance for other counties.

The indirect results of fixing the attention of the community on the subject of efficient administration are striking. In the city government we erected a permanent efficiency division under the Civil Service Commission. Under the influence of the general indignation at waste of public funds, the civil service law was extended to cover the park system of Chicago and the Cook County service. In each of the three park systems and in Cook County an efficiency division has been established, and the work of reorganizing and systematizing has been begun, although by no means completed. Budget systems, contracts, accounting methods and pay rolls have received an overhauling in the last three years such as they have never known in the history of the city. The people and their officials have come to think more clearly and to move more swiftly in the direction of economy and efficiency than at any other period in our municipal life.

Importance of Continued Investigation

The value of persistent effort in the direction of economical and efficient administration is shown by some of the work done by

this bureau. For example, one of the reports of the commission on city expenditures showed the urgent need for an electrolytical survey, but no action was taken. The bureau published another report on this subject calling attention to the previous one, and to present conditions, and as a result the city undertook the survey. One of the reports of the commission on city expenditures showed that the city's specifications for wood block paving were so drawn as to invite monopoly, with higher prices and poorer pavement. No action having been taken, the bureau issued a supplementary report again calling attention to these facts; and this time a modification of the specifications was secured. A report of the commission called attention to the defective and expensive system of repairing asphalt pavements. No adequate action was obtained, and the bureau made another investigation of the conditions, suggesting that the city consider whether it would not be better policy to make asphalt repairs itself. In the last city budget, an appropriation was made for a municipal asphalt repairing plant.

It is true that results are not always secured even on a second report, but frequently they are. In any event, continuous attention on the part of some competent agency to any branch of public administration provides a support for the official who is trying to serve the public, and is a standing menace to the corrupt or incompetent. Hitherto the one steady and persistent force has been that of some private or political interest. It is just as important to uphold and protect the honest and capable official, as it is to punish the dishonest and weed out the incompetent. Many of the important results we have accomplished locally have come as a result of the action of officials who have hitherto lacked "support" in their desire to improve the service. Men naturally prefer to head an efficient bureau or department rather than an inefficient one, and if political or private pressure is removed or counteracted, they will take a degree of pride in the public work entrusted to their charge.

One of the most significant hearings before the commission on city expenditures was that in which a high city official showed how suggestion after suggestion of his had been blocked by political or other influences, until finally he had become utterly discouraged and had ceased to put forth his energies aggressively for the im-

provement of the service. His case is only typical of others here and elsewhere.

The steady work of these agencies of investigation is slowly raising the standards of service in our municipalities. They are educating the taxpayer and citizen to watch where his dollar goes. They are turning the spotlight on graft; they are making political favoritism unprofitable politically; they are directing public officials to the task of overhauling antiquated, lax and wasteful methods; they are helping to make city government an efficient instrument in the service of the community.

A NATIONAL FUND FOR PROMOTING EFFICIENT MUNICIPAL ACCOUNTING AND REPORTING

BY U. L. LEONHAUSER, C. P. A.,
Secretary of the Fund.

When Herman A. Metz assumed the office of comptroller of New York City a few years ago, he was shocked at the archaic method employed in transacting public business, in recording transactions, and for currently showing the financial position of the city. Having built up a large private business of his own and knowing, therefore, from first-hand study, the importance of efficient methods, the lack of business methods in the city government was all the more glaring to him. About this time the Bureau of Municipal Research began taking an active part in investigating the city's business methods. As a result of its studies, with expert advice, it framed definite suggestions as to how the city's business and accounting methods could be improved so as to bring them into line with accepted standards in well-conducted private business. The Bureau submitted its suggestions to Mr. Metz, as comptroller, who eagerly embraced this opportunity for correcting the chaotic condition of the comptroller's office. By doing so he started a movement for efficient business practice, still in operation, which is permeating every nook and corner of New York City's departments, to the profound astonishment of many wiseacres who said the thing could not be done.

So impressed was Mr. Metz with the need for modern municipal accounting and business methods, which he knew must be nation-wide that, upon finishing his term as comptroller, he conceived the idea of establishing a fund for carrying on a campaign of co-operation along these lines in other American cities. Correspondence was entered into with a number of city comptrollers throughout the country. He found that his plan met the hearty approval of these officials. He thereupon established the National Fund for Promoting Efficient Municipal Accounting and Reporting, endowing it with \$10,000 a year for three years. The administration of the fund was placed in the hands of the Bureau of Municipal

Research, because this agency was already in touch with city officials throughout the country.

This fund, now generally known as the "Metz Fund," seeks to make available to American cities the best principles and practices worked out in municipal accounting; to assist officials who find themselves in the plight in which Mr. Metz found himself when he became comptroller of New York City, by showing how they may establish efficient accounting and business methods; and to answer questions concerning municipal accounting and other problems. In short, to show how, when city officials have the will, to adopt in municipal business the kind of accounting systems and business methods which are in use in efficient private business.

In addition to publishing current bulletins calculated to arouse interest in and to emphasize the need for better accounting methods, and to answering questions submitted by city officials and private citizens in various parts of the country, the fund is developing a literature on municipal accounting, a field which up to this time has scarcely been touched. It is publishing a series of "Short Talks on Municipal Accounting and Reporting," one number of which appears each month, seven numbers having thus far been distributed.

Talk No. 1 contains a discussion of municipal revenue and expense accounts, what they are and what they are not, why they are necessary, with a concrete illustration of a revenue and expense statement and an illustration of the kind of a statement that usually passes for a revenue and expense statement. Talk No. 2 discusses a balance sheet or statement of assets and liabilities of the general account, how it is developed and why it is necessary. It contains illustrations of the right and wrong kind of balance sheets, and statements of surplus or deficit account. Talk No. 3 deals with fund accounts, tells how they are developed, why they are necessary; contains concrete illustration of fund balance sheet, and of a summary consolidated balance sheet. Talk No. 4 deals with the capital account balance sheet showing the capital assets and liabilities of a city; shows why these accounts are best exhibited in a separate statement from current assets and liabilities; explains depreciation, capital surplus, assessment accounts, etc.; and gives concrete illustration of a capital account balance sheet. Talk No. 5 explains the correct treatment of sinking fund accounts and trust fund accounts. Talk No. 6 deals with functional expense and cost

accounts; explains the underlying principles of classification and points out some prevailing misconceptions of the purpose of classification; explains the value of functional and job costs, and of accounts of work performed, both being necessary for ascertaining unit costs; and Talk No. 7 explains a scientific method of collecting and controlling municipal revenues, describes the kinds of documents and method of audit; contains illustrations of forms of reports to treasurer and financial officer and forms of new triplicate tax bill adopted by New York City. When completed the "Talks" will be published¹ in book form.

One of the vital needs of almost every municipality in the country, and, for that matter, of every state government in the country, is a scientific method of budget-making, in other words a scheme for determining how much money should be appropriated and how the appropriations shall be apportioned among the activities of the city and the objects of expenditure, in order to make certain that money will be spent for the purposes for which appropriated and no other.

The Metz Fund, in recognition of this need, has undertaken the preparation of a handbook on the subject which it hopes to make available to every city and state in the country. This book, which is now in preparation, will cover every phase of the subject of budget-making.

Information regarding present methods of budget-making has been obtained from over fifty cities and will be incorporated in the manual in a comparative statement. Another subject which is engaging the attention of citizens who desire to make municipal business more efficient is that of scientific purchasing and standardization of supplies and materials. This subject will be dealt with in detail in a book which the Metz Fund plans to publish in the near future. For the purposes of ascertaining the steps taken by commission government to improve city administration the fund conducted a comparative field study of ten typical commission cities in which the practice of commission government was carefully analyzed. The results of the study are now in preparation for publication. Where city officials desire to consult with the experts of the fund in their own cities so that the subject of conference may be close at hand, such service is made available at cost.

¹ D. Appleton & Co., Publishers.

TRAINING MEN AND WOMEN FOR PUBLIC SERVICE

BY WILLIAM H. ALLEN, PH.D.,

Joint Director of the New York Bureau of Municipal Research and of
The Training School for Public Service.

When in 1909 effort was made to interest Mr. E. H. Harriman in the nation-wide need for municipal research, conditions in Philadelphia, Cincinnati, St. Louis, St. Paul, etc., were cited. Mr. Harriman replied, "This is not the time to think about St. Louis, St. Paul, Cincinnati and Philadelphia. We have been trying out the municipal research method in New York. We must first make that demonstration absolutely convincing. Whatever succeeds in New York will succeed in any other city, and then is the time to consider the extension of the municipal research method to all parts of the country."

When in 1910 Mrs. E. H. Harriman was told of requests for men to apply to a score of localities at local expense, the methods which had been convincingly demonstrated in Greater New York, she asked: "Will you not need soon a training school to ensure that the supply of men able to do what communities want shall keep up with the demands for more efficient government?"

The National Training School for Public Service, now being conducted by the New York Bureau of Municipal Research, is therefore grounded in five necessities: (1) The need for efficiency in government methods; (2) the need for efficient agencies to lead communities and to apply scientific methods to government; (3) the need for slow but convincing application of efficiency methods to public business; (4) the nation wide awakening to the need for both efficient methods and efficient agents; and (5) the need for accelerating the supply through a national training school.

After her first question in January, 1910, Mrs. Harriman asked frequently for facts bearing upon the New York demonstration and upon the out-of-New-York interest in that demonstration. From the fall of 1910 to the spring of 1911 she asked one group after another of business and professional men the following questions:

1. Do you think efficiency of public business might be increased by any kind of training in advance of election or appointment to office?

2. Do you think efficiency of volunteer bodies, such as bureaus of municipal research, boards of trade, city clubs, etc., might be increased if there were available men trained to analyze the methods and results of public business and make constructive suggestions?

3. Do you think training for the study and administration of public business can be given best through university lectures or through field work?

4. Does municipal research with the sympathy and co-operation of the city administration in New York—which has already been promised by the mayor, comptroller, commissioner of accounts, presidents of Manhattan and board of aldermen, etc.—afford a suitable laboratory for such training?

5. Is the time ripe to begin such training?

She began with the then trustees of the Bureau of Municipal Research: R. Fulton Cutting, Bradley Martin, Jr., Victor Morawetz, John B. Pine, Henry L. Pritchett, Albert Shaw, Edwin R. A. Seligman, Frank Tucker and F. A. Vanderlip. She next asked a number of educators: Professor L. S. Rowe, president of the American Academy of Political and Social Science; President Humphreys, of Stevens Institute; President Hadley, of Yale; President David Starr Jordan, of Leland Stanford University; Professor Charles Zueblin, and Dr. Talcott Williams, the recently elected head of Columbia's School of Journalism; Professor Marion Parris, of Bryn Mawr. Thirdly, men in governmental positions were asked: Governor Wilson, Justice Hughes, Mayor Gaynor, Comptroller Prendergast, President McAneny, President Mitchel, Commissioner of Accounts Fosdick. The answers from these persons, experienced in efficiency tests for private business, public business and education, have been printed in the *Announcement* which will probably be found by readers of THE ANNALS in their local library. They were unanimous in believing that, in addition to all that the universities, colleges and technical schools could do, field training was needed and the time was ripe to begin.

The question was then raised with a number of business men of New York, Chicago, Cleveland, and Cincinnati who were in posi-

tion not only to understand these needs but, if convinced, to contribute toward the founding and support of such a training school.

After questions, explanations and conferences the Training School for Public Service was announced on November 13, 1911, with the following as founders: George F. Baker, August Belmont, George Blumenthal, William P. Bonbright & Co., H. M. Byllesby, Andrew Carnegie, C. A. Coffin, Cleveland H. Dodge, M. Hartley Dodge, James Douglas, Robert Goelet, Mrs. E. H. Harriman, J. W. Harriman, Edwin Hawley, Myron T. Herrick, W. M. V. Hoffman, Samuel Insull, Otto H. Kahn, Adolph Lewisohn, Samuel A. Lewisohn, Clarence H. Mackay, J. P. Morgan, Frank A. Munsey, Stephen S. Palmer, M. J. Perry, George W. Perkins, Henry Phipps, John D. Rockefeller, Jacob H. Schiff, Mortimer L. Schiff, J. G. Schmidlapp, Howard C. Smith, Robert M. Thompson, Cornelius Vanderbilt, Felix M. Warburg..

The training school is conducted by the New York Bureau of Municipal Research and its men are assigned to tasks side by side with regular staff members.

The point of view of those who are now supporting and conducting the training school is well represented by an epigrammatic sentence from a letter by Dr. Marion Parris, of Bryn Mawr: "Students don't dare squint at a microbe with less than three years' graduate biology. Yet we turn people loose on the social fabric without any other doctorate than a kind heart." The kind heart referred to is, of course, frequently supplemented with the doctrines of political pull or personal ambition.

The aims of the training school were stated by the founders as follows:

To train men for the study and administration of public business.

To qualify men to meet the growing need for students and administrators competent (a) to test and (b) to improve methods and results of municipal service.

To publish facts which may be incorporated in text-books and lectures in teaching the relation to the public service of (a) political science, government and sociology; (b) accountancy; (c) engineering; (d) law; (e) public hygiene; (f) school administration; (g) journalism; (h) medicine, etc.

To furnish wherever practicable a connecting link between

schools and colleges and municipal or other public departments for practical field work.

To secure open discussion of public business which will emphasize the need for training on the part of officials and employees alike.

Men in training will be taught by doing and helping to do, not by listening. They must, through actual field work, equip themselves to learn whether and how time sheets are kept; how service records are installed; how efficiency tests are applied; how city contracts are enforced; how goods purchased and construction processes are inspected; how public hearings are conducted; how civic bodies may influence official action; how current and annual reports are prepared; how school children are examined for physical defects; how milk stations are conducted; how street cleaning, street gangs, clerks, etc., are tested; how salaries, grades and supplies are standardized; how efficiency of school work is tested and improved; how charters are studied, drafted, explained; how budget estimates are prepared, based on past experience and proved future needs, analyzed, studied, explained.

For example, New York City has decided to establish a municipal reference library as part of the New York public library. After conference with Dr. John S. Billings, director of the New York public library, one of the training school men is obtaining facts which will help in the organization of a municipal reference library and insure that the first documents put into that library are of a kind most certain to be of use to city officials in their current work. He has made an inventory of the books heretofore considered indispensable for the various division heads in the borough of Manhattan, department of water supply, etc. He has analyzed the reports made by engineers and other experts to the Board of Estimate and Apportionment preparatory to the voting of funds, and noted (a) what bibliographical data were consulted in the preparation of these reports; (b) what additional material was available but not used; (c) what further material should have been available and consulted if the city was to reach its conclusion in the full light of its own experience and the best experience of other cities.

Two former school superintendents and a former Bureau worker are making a study of the Wisconsin school system, particularly the

rural schools. Their report will deal with such subjects as curriculum, instruction in agriculture, salaries, cost of supplies and plant, attendance forms of records, etc. That theirs is really field training may be gathered from a letter just received: "The demands of this work cause one to live a rather strenuous existence. . . . Yesterday morning I took a train at 3.30 a. m., rode until six, drove into the country and returned at 12.15 this morning. It is not always as bad as this, but traveling in the frontier country is difficult. But there are many compensations."

A former health officer is working out plans for current cumulative health returns particularly as to transmissible diseases, with the aim of making it easy for health officers to keep before themselves statistical and graphic showing of where the problem lies in controlling infection.

Every man in training must have first hand contact with health and school problems and handling vouchers, warrants, budget estimates, etc.

Stipends of from zero to \$3,000 are being paid men in training. These stipends are not salaries but bridges, to enable men to get over from one specialty to the general practice of leadership in municipal business. No stipend is paid men just out of college.¹

During the summer of 1912 special work will be conducted for school men wishing to supplement their previous training by a field study of the machinery and procedure of various departments in New York City. That is the season when New York prepares its budget and all summer students will be given at least a short course in preparation, analysis and explanation of budget estimates.

The opportunities for this form of training are as widespread as the need for efficient public service. The founders of the National Training School for Public Service had in mind at the outset that whatever merit there might be in training through doing would be enhanced in direct proportion to the necessity for doing the work which the student is to study. There may be expected to be hundreds of thousands of young men and women, some of them in high schools, some of them in colleges, others in technical schools, who will be learning the science of government and practicing the science of government in their own localities from one end of the country

¹Further information will be gladly sent upon request to Training School for Public Service, 261 Broadway.

to the other. The time will certainly come when engineering schools will expect every graduate to have had field experience in municipal or other public engineering; when medical schools will expect every graduate to have had field experience in municipal or other public medicine; when lawyers will be required to know and to have applied administrative law to their immediate localities; when college and high school graduates will not be considered equipped for the duties of citizenship until they have had field experience in government methods. As men are trained to do public business efficiently and as others are trained to require the efficient doing of public business, even political parties will see that it is to their interest to utilize men able to do jobs well.

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THE ANNALS of OF MICHIGAN,
THE AMERICAN ACADEMY OF POLITICAL
AND SOCIAL SCIENCE

Vol. XLI

MAY, 1912

Whole No. 130

*Efficiency in
City Government*

Issued Bi-monthly by the American Academy of Political and Social Science,
Philadelphia, Pa., PER YEAR, \$6.00, PER NUMBER, \$1.00

Entered at the post-office at Philadelphia as second-class matter, 1890.

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